Louisiana Department of Wildlife & Fisheries

www.wlf.louisiana.gov

2006-2007 Annual Report

From the Secretary

Following two successive hurricane seasons during which no tropical storms touched the state, I can report that Louisiana's Department of Wildlife and Fisheries (LDWF) has made steady progress on recovery efforts related to the storms of 2005 and moved forward with the long list of mission-focused agency responsibilities.

The Office of Fisheries has organized and continues to oversee distribution of federal funds related to fishing industry recovery while bringing storm-damaged facilities back into service. Within the Fur and Refuge Division, repairs to coastal facilities and properties consumed many man-hours, and at sites such as Rockefeller Refuge there is still much to be done to return operations back to pre-storm levels.

The Enforcement Division has accepted the new responsibility for coordination of all state, federal and local search and rescue resources in events that activate the Governor's Office of Homeland Security and Emergency Preparedness. Annual coordinated training events are now a part of the Enforcement planning process and LDWF will remain ready to respond when called.

LDWF's continued cooperative working relationships with state and federal resource management agencies, university partners and non-governmental organizations are producing results in the agency's fish and wildlife habitat management efforts. From the Louisiana black bear to the brown pelican and pallid sturgeon, species recovery efforts are producing results.
The dedicated staff at LDWF remains focused on the additional challenges of resource management that lay ahead.

Sincerely,

Robert Barham
Secretary

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OFFICE OF SECRETARY

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The charge of the Louisiana Department of Wildlife and Fisheries is to protect, conserve and replenish the natural resources, wildlife and aquatic life of the state.

2008

Office of Secretary

The Office of Secretary is administered by the department's chief administrative officer, who oversees all scientific operations as organized by the Office of Wildlife and the Office of Fisheries. The Secretary also has ultimate authority over the operation of the department's fiscal and business matters as administered by the Office of Management and Finance. Support operations of the department report directly to the Secretary. These include the Enforcement Division and the Seafood Promotion and Marketing Board, as well as the department's Legal Section.

Enforcement Division

The Law Enforcement Division is responsible for enforcing laws enacted by the Louisiana Legislature relative to fish and wildlife resources and boating safety regulations, as well as federal regulations pertaining to migratory birds and endangered species.

Louisiana Seafood Promotion and Marketing Board

The Louisiana Seafood Promotion and Marketing Board was created by the Louisiana Legislature with the purpose of enhancing the public image of commercial fishery products, promoting the consumption of these products and assisting the seafood industry. According to the mission statement, the board assistance is to twofold: product promotion through advertising programs and public image enhancements; and market development by better utilizing existing markets and establishing new market opportunities.

Legal Section

The Legal Section represents the department and the Wildlife and Fisheries Commission in all legal matters involving promulgation, enforcement and administration of the state's fish and game laws and regulations, litigation involving department programs, daily advise and counsel and drafting of contracts, legal documents and legislation.

ENFORCEMENT

The Louisiana Department of Wildlife and Fisheries Law Enforcement Division (LDWF/LED) is a fully-commissioned statewide law enforcement agency with the principle mission of protecting Louisiana's natural resources and serving the people who utilize them. Beyond the traditional role of ensuring compliance with licensing and harvesting regulations, LDWF/LED also conducts search and rescue missions, enforces boating safety laws, investigates boating and hunting accidents and provides boater education classes for thousands of citizens each year.

LDWF/LED conducted 295,924 patrol hours in fiscal year 2006-2007: 176,752 on land and 119,172 on water. Agents made 661,937 contacts with the public, the majority of whom were in compliance with state and federal wildlife and fisheries regulations. LDWF/LED agents issued 15,382 criminal citations and 3,096 warnings during this period. The most common types of citations were fishing without a license, failure to comply with personal floatation device regulations and failure to comply with rules and regulations on wildlife management areas.

ORGANIZATIONAL STRUCTURE AND PERSONNEL

LDWF/LED is organized in a paramilitary structure to assure the efficient use of resources, consistent statewide enforcement policy and the effective, coordinated response to urgent needs (*Figure 1*). LDWF/LED is commanded by one colonel, the chief of enforcement, who reports directly to LDWF's Secretary. Reporting to the colonel are two lieutenant colonels: one supervising search and rescue and field operations and one overseeing administration of the division and the operations of the Aviation Section and serving as LDWF's legislative liaison. There are three majors: one over the northern section of the state; one over the coastal section; and another over the Bureau of Operations which includes boater safety education programs .

LDWF Law Enforcement Division Organization Chart

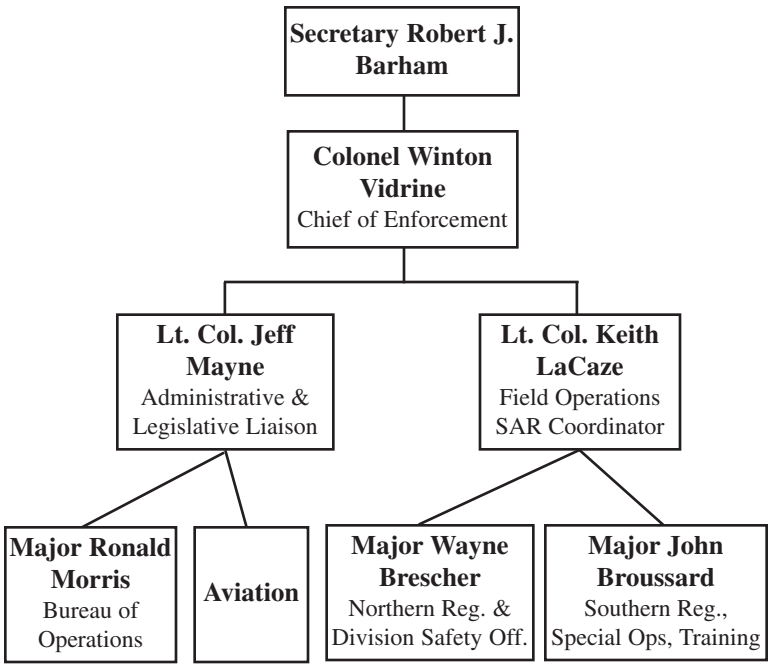


FIGURE 1.

Louisiana is divided into nine enforcement regions (*Figure 2*), each composed of two or three multi-parish districts. Each region is managed by a captain, who supervises two or three district supervisors of the lieutenant rank. Regions have between 16-25 agents depending on regional size, resident population and participant population.

Enforcement Division Regions

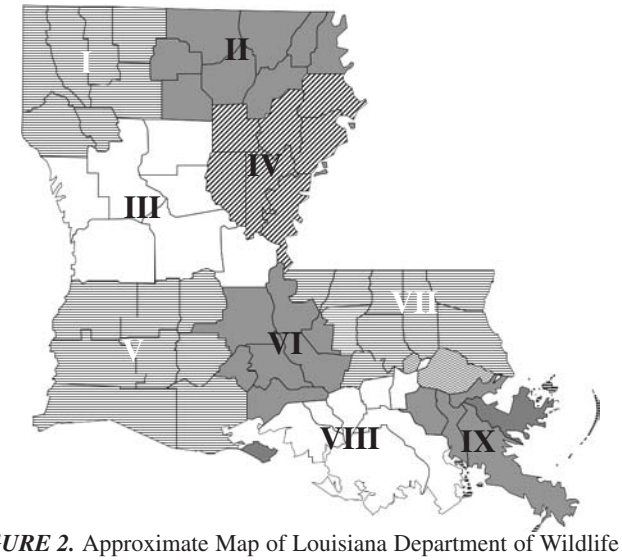


FIGURE 2. Approximate Map of Louisiana Department of Wildlife and Fisheries Law Enforcement Division Regions.

Total division head count is 261 positions, with an average of 10-20 vacancies at any given time due to retirement, resignation, etc. The actual number of filled positions as of February 2008 is 256, including 238 enforcement agents, 23 administrative staff, including civilian employees, six communications officers and two pilots.

The total number of field agents, largely due to funding reductions, has declined in recent years and is expected to decline to 235 in fiscal year 2008-2009 (*Figure 3*). Though LDWF/LED has managed to maintain a high level of performance despite the reduction in the number of law enforcement agent positions, there

Enforcement Agent Positions: FY 1988-89 to FY 2008-09

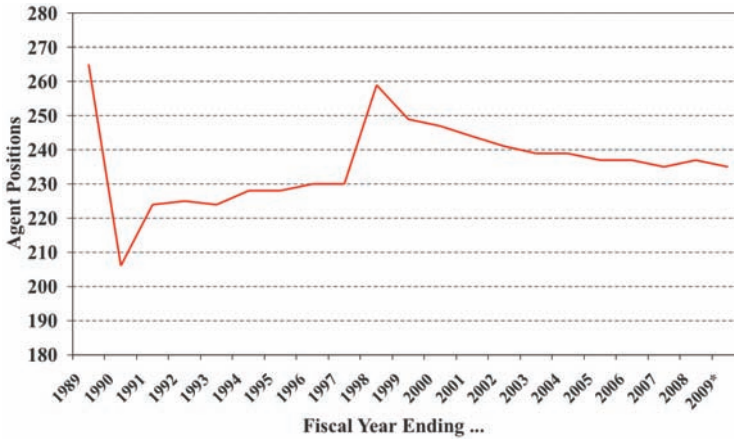


FIGURE 3. Louisiana Department of Wildlife and Fisheries law Enforcement Division Enforcement Agent Positions: FY 1988-89 to FY 2008-09.

are concerns that further reductions may compromise the ability to accomplish the division's goals of resource conservation, law enforcement and public safety.

Current funding provides a field enforcement staff of two to four agents per parish, according to the nature of wildlife-based activities in the area, the number of people participating, the frequency of their participation and other factors.

REGIONAL ENFORCEMENT PROGRAMS

Most of the law enforcement activity performed by LDWF/LED is conducted by regional agents. Regional agents work a schedule assigned by their supervisors to address seasonal needs, reported violations, weather conditions and predominant activities. Agents are on-call 24 hours per day and must be willing to change their work hours and locations as circumstances require. Schedules are often changed due to weather and reported violations, and agents are often called out to respond to violations in progress, boating and hunting accidents and calls for search and rescue.

Agents use a variety of vehicles during land patrols, primarily four-wheel drive trucks and all-terrain vehicles (ATVs or 4-wheelers). The primary patrol vessels used during water patrols are outboard bay boats and 19-foot to 32- foot long marine patrol vessels. LDWF/LED also deploys go-devils, airboats, surface river mudboats, bass boats and flatboats.

SPECIALIZED UNITS

LDWF/LED contains five specialized units with selected missions or purposes: the Special Operations Section; the Special Investigations Unit; the Oyster Strike Force; the Statewide Strike Force; and the Aviation Section. Agents in specialized units have developed specific skills, expertise and knowledge appropriate for their particular operational fields. Agents in specialized units operate in relatively broad geographic areas and may work alongside regional enforcement agents when appropriate.

Special Operation Section

The Special Operations Section houses covert operations, in which undercover agents work to stem the illegal sale of fish and wildlife, develop information about ongoing criminal enterprises and address major violations of state and federal law.

The Special Investigations Unit devotes attention to commercial fisheries operations and license fraud. Violations include smuggling, interstate commerce violations, false reporting and under-reporting of commercial fish harvests.

Oyster Strike Force

The Oyster Strike Force works with region agents in coastal regions to address violations in the oyster industry, primarily harvesting from closed waters, stealing from oyster leases and state grounds and oyster size regulations.

Statewide Strike Force

The Statewide Strike Force is assigned to work problem areas statewide. These agents provide regions with additional manpower on WMAs and places of high seasonal utilization, such as Grand Isle and other locations throughout the state.

Aviation Section

The Aviation Section contains two pilots and three airplanes. The Aviation Section's aircraft provide a valuable platform for detecting illegal hunting and fishing activities and frequently play a vital life-saving role in search and rescue operations. The Aviation Section also contributes its services to other divisions for biological missions, such as waterfowl counts and the monitoring of commercial fisheries.

BOATING SAFETY PROGRAM

With 15,000 miles of tidal coastline, 5,000 miles of navigable waterways, three of the busiest ports in the country, a thriving shipping industry, a large commercial fishing fleet and over 300,000 registered boats, Louisiana contains many geographic, demographic and economic features that pose special challenges for boating safety enforcement. LDWF/LED agents made 260,818 public contacts during the course of 88,967 patrol hours dedicated to boating enforcement, education and accident investigation in fiscal year 2006-2007. More than 73,121 patrol hours were performed in vessels on the water.

The adoption of "Rules of the Road" regulations for boaters have enhanced the enforcement of boating safety regulations and boating under the influence (BUI) laws. These regulations provide the boating public with clear rules for the manner in which boats are operated, and are an important tool in determining fault in boating accidents. The "Rules of the Road" also enhance the ability of agents to address reckless and careless operation of motorboats. In fiscal year 2006-2007, LDWF/LED agents issued 199 citations for careless and reckless operation of a vessel and 124 citations for operating a vessel while intoxicated.

The statewide LDWF/LED boater education course teaches safe, legal and responsible boat operation and is approved by the National Association of State Boating Law Administrators. This program provides a vital outreach to the community that has greatly improved the awareness of and compliance with boating safety practices and regulations in Louisiana. Agents hold classes in each region every month for anybody who wishes or is required by Louisiana law to take them. (Act 921 of the 2003 Louisiana Regular Legislative Session mandated approved boater safety education classes for anybody born after January 1988). In fiscal year 2006-2007, 5,363 citizens attended 219 classes. LDWF/LED is in the process of recruiting and training volunteer instructors to complement and enhance the efforts of its own agents.

Agents provided 1,253 patrol hours of search and rescue services, both on land and water, in fiscal year 2006-2007. These operations have saved lives, reduced the suffering of accident victims, stranded hunters, boaters and anyone else needing assistance and minimized the anxiety for family members eager to learn the fate of their loved ones. Agents regularly train to hone their search and rescue skills and constantly work to develop close working relationships with other agencies to coordinate response efforts.

AGENT TRAINING PROGRAM

The Wildlife and Fisheries Law Enforcement Academy graduated 24 agents in fiscal year 2006-2007. The academy trains and certifies cadets in a wide variety of areas, including the Peace Officers Standards and Training (POST) Council certification

required of all law enforcement officers. Cadets live at the academy during the week and experience a boot camp-style program, with daily physical training in addition to classroom activities. There are many hands-on courses, such as waterfowl enforcement practices, boat operation and firearms training. Each cadet is equipped with a laptop computer with the capability for networking through the Internet for access to Web-based courses and research sites.

Cadets receive training in numerous courses of study and are certified in 10 courses of training conducted by FBI-certified trainers from LDWF/LED and expert trainers from a number of other agencies. LDWF/LED personnel conduct training in standardized field sobriety testing, basic marine theft, basic defensive tactics, collapsible baton techniques, wildlife agents' aquatic survival and chemical weapon indoctrination. The Louisiana State Police (LSP) provide training in chemical testing for insobriety. The LSP Highway Safety Division leads classes in DWI detection and the Department of Public Safety conducts a Louisiana Safe Driver's Course.

JOINT ENFORCEMENT AGREEMENT

LDWF/LED again entered into a Joint Enforcement Agreement (JEA) with the National Oceanic and Atmospheric Administration's Office for Enforcement. LDWF/LED received approximately $1.5 million in fiscal year 2006-2007 to patrol for compliance with federal commercial and recreational fisheries regulations, primarily in the Gulf of Mexico. Several patrol vessels and other necessary equipment have been acquired under this program. Agents have been very successful in identifying illegal and unregulated fishing activity and obtaining a number of large cases involving commercial and recreational violations.

OPERATION GAME THIEF

Louisiana Operation Game Thief, Inc. (OGT) is a program which provides cash rewards to those providing information leading to the apprehension of wildlife violators. Violations can be reported anonymously by accessing LDWF's Web-site, *www.wlf.louisiana.gov,* or by calling a 24-hour toll-free telephone number, 1-800-442-2511 maintained in the LDWF Communications Center. Reports are immediately referred to agents for action. The callers may remain anonymous.

Rewards totaling $18,700 were paid on 39 cases. The total amount of rewards paid by OGT since its inception 23 years ago is $234,200.

HOMELAND SECURITY

LDWF/LED is an active participant in Louisiana's Homeland Security Plan and represents the state in waterborne emergencies. Through the Office of Emergency Preparedness (OEP), LDWF/LED is the lead agency for search and rescue operations during natural disasters and maritime security of Louisiana's vital business and government interests along the coast and major rivers. As members of the Governor's Homeland Security Advisory Council, the Area Maritime Security Executive Steering Committee and all major port security committees within the state, LDWF/LED enforcement agents frequently respond to requests to deploy LDWF marine resources for security concerns. LDWF/LED specialized training and equipment and its ability to operate throughout the state's vast maze of waterways and wild areas has complemented Louisiana's ability to respond to emergencies on land and water.

MARITIME SEARCH AND RESCUE COURSE

Since the devastating landfalls of Hurricanes Katrina and Rita, several law enforcement agencies across Louisiana have recognized the vital need to train officers in all aspects of search and rescue (SAR), especially maritime search and rescue. LDWF/LED, as the primary agency for SAR in the state, received several requests from law enforcement agencies to share the benefit of its wide experience in the area by providing maritime SAR training to their officers.

In 2007, the Louisiana Police Officers Standards and Training (POST) Council granted LDWF/LED approval to offer the Maritime Search and Rescue Course (MSARC) to qualified POST certified peace officers.

The 40-hour MSARC was designed and implemented to train other law enforcement officers in such areas as marine search and rescue, Louisiana Emergency Operation Plans (ESF-9 SAR), navigation rules, vessel handling, waterborne arrest techniques and more. The first two offerings of the course were held in October and November 2007.

LOUISIANA SEAFOOD PROMOTION AND MARKETING BOARD

After Hurricanes Katrina and Rita, the Louisiana Seafood Promotion and Marketing Board (LSPMB) redirected itself. The number-one objective was to assist in the survival of Louisiana's fishing families. This document does not allow for the recognition of the many agencies, trade associations, nonprofit and community groups who are working toward this objective. LSPMB is proud to have aligned itself with these many committed people and to have applied its resources toward the recovery of the state's seafood culture.

DONATIONS

Continuing those efforts, LSPMB secured several key donations. In addition to the Travel Lift from the Alaska Fisheries Industry Relief Mission which enabled fishermen to put their boats back in the water, LSPMB secured a major donation from Shell Oil Company of $.5 million to install two ice houses to kick-start two fishing communities. One house was built in St. Bernard Parish and the other in Cameron Parish. The donation was made in May of 2006 and by August the first ice house was operational.

In January of 2007, LSPMB received another donation from Shell Oil of $250,000 to issue direct assistance grants to fishermen. This funding highlighted the tremendous need with the media resulting in helping to secure additional funding. Since the storms, LSPMB has worked diligently coordinating industry members to go to Washington D.C. and to work with the Louisiana Recovery Authority to secure relief dollars.

EVENTS

The year also began with the third annual Great American Seafood Cook Off the first weekend in August 2006, a contest that raises consumer awareness about the importance of eating domestic, sustainable seafood. Food Network covered this year's event and had a special highlight on Louisiana's Chef Frank Brigtsen and the recovery of our fisheries. This event was symbolic of the industry making the turnaround towards recovery. It was also the first major event to be held by LSPMB since Hurricanes Katrina and Rita.

Following this event in September, LSPMB hosted a reception at the National Restaurant Association's (NRA) Public Affairs conference in Washington D.C. This event was yet another rallying point to top-tier restaurateurs from across the nation that Louisiana's seafood industry was back up and running. The NRA gave Louisiana seafood very special recognition to all of its members.

Entering 2007, LSPMB continued to return to its traditional roles of promotions and marketing. A few signature events were established:

- LSPMB helped to start Louisiana Oyster Jubilee which was highlighted by a 340 foot long oyster po boy down Bourbon Street.
- LSPMB opened up the May shrimp season with the first delivery of shrimp using an armored bank truck from Omni Bank. The first delivery of shrimp went to Paul Prudhomme followed by approximately 20 other French Quarter restaurants.
- In June, LSPMB helped to start the first New Orleans Seafood Fest which drew over 38,000 people.

LSPMB also exhibited at the Boston Seafood and the National Restaurant Association trade shows.

Surrounding all the events stated above, LSPMB supported all of them with various forms of media, be it paid advertising, billboards, public relations, NAPS articles or internet. LSPMB continued its strong public relations efforts to help the consumer understand that Louisiana's waters and seafood are safe.

Office of Management & Finance

The Office of Management and Finance is directed by the Undersecretary. This budget unit is responsible for the functions of accounting, budget forecasting and control, procurement and contract management, administrative services, information technology services, management and program analysis (including strategic and operational planning), socioeconomic research and analysis, property control (including fleet management), boat registration, human resources management, federal grant reporting, administration and issuing of licenses and permits, collection of fees, taxes, fines and penalties, public information and the Louisiana Conservationist magazine.

Computer Center

The Computer Center oversees the department's information processing resources.

Fiscal

The Fiscal Section is responsible for all financial operations of the department.

Human Resources

The Human Resources section handles all employee personnel actions, develops policies and procedures, conducts training and new employee orientation, administers the performance planning and rating program and the department's safety program.

Licensing

The Licensing Section administers the issuance of all licenses and most other permits and is responsible for the collection and deposit of related fees.

Property Control

The Property Control Section is responsible for the department's movable property program, fleet management program and managing property and vehicle insurance claims.

Public Information

The Public Information Section is responsible for the production of printed materials and audio-visual products, media relations and special events and promotions.

Socioeconomic Research & Development

The Socioeconomic Research & Development Section conducts economic research pertaining to wildlife and fishery resources, provides support to other department programs, and represents the department on various study groups, task forces and committees.

COMPUTER CENTER

The Computer Center is responsible for maintaining the agency's information processing resources. The center operates three mainframes and 26 Intel based Windows servers. The Computer Center supports 601 desktop computers and 263 laptops in 30 locations throughout the state and supports and maintains the network infrastructure that ties them all together. We offer training, help desk support, custom programming, database services, email services, Internet access, user data backup for headquarter users, statistical analysis tools for biologists and imaging services for Human Resources, Licensing and Fisheries.

In addition, the Computer Center has developed the mainframe applications necessary to sell and maintain commercial licenses, motorboat registrations, hunting/boating safety, Alligator System and Lottery System. On the Intel platform, we developed and maintain the Enforcement application that allows us to track citations as well as the magazine system that tracks the *Conservationist* magazine subscription information.

The Computer Center, along with our Public Information section, maintains LDWF's public Web server which contains information on hunting rules and regulations, season dates, licensing information, emergency closures and much more.

TECHNICAL SUPPORT SECTION

The Technical Section, which consists of four employees and one student, supports 601 desktop computers and 263 laptops throughout the state. In the last eight years, the number of personal computers that LDWF utilizes has grown from under 25 to over 600. Keeping these machines maintained and secure is one of the Technical Section's biggest challenges. Each of these machines must have regular updates applied and have certain software installed and updated (anti-virus, spyware). Providing general help desk support for these computers occupies a large portion of a tech's time. For fiscal year 2006-2007, the technical section fielded 4,281 non-trivial telephone support calls, configured, built or relocated 471 computers/printers and answered 6,823 emails on hardware and software support issues. Technical calls can be as simple as helping with an expired password, to helping with software problems/re-installations, or as complicated as helping repair and diagnose failed hardware. The technical staff must travel regularly to all of LDWF's remote facilities to perform this maintenance on all machines.

The Technical Section maintains three mainframes and 26 Windows based servers. Each of the mainframes/servers must be given daily maintenance. This includes not only keeping the operating systems and utility software up to date, but also providing regular backups for all critical data to prevent loss. Loss of data can come from simply losing a disk drive, losing entire computers or being hacked. Catastrophic loss of data can come from fire, flood, terrorism or other causes that would impact the entire organization. In addition, data can be lost through human error such as inadvertently deleting records that shouldn't be deleted. All these risks must be mitigated. Primarily this is done through daily backups of all pertinent data. Every day all critical data on our servers is backed up and stored off-site. We also attempt to back up the majority of our user's important data that is stored on their hard drives.

Maintenance also includes keeping all the critical software that runs on the servers up to date and functional. The services we provide include things such as E-mail, databases, anti-virus protection, web-services and network operating system services/ security. All these software packages are regularly updated. Training to keep up with these updates could easily become a constant activity.

Accomplishments during fiscal year 2006-2007 include:

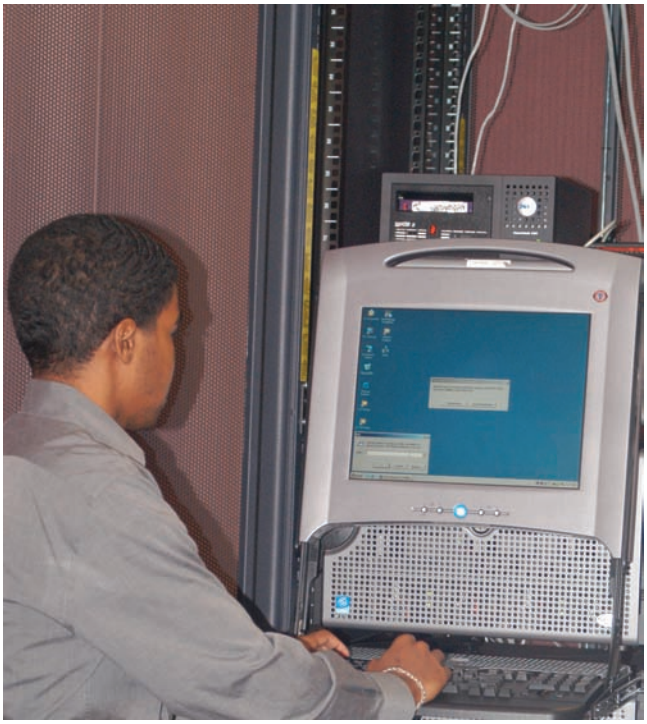
- Rewiring the computer center's server room.
- Purchase and installation of an upgraded battery backup (UPS) system to ensure continuous operation in a power outage. The new UPS upgrades us from a 12 KVA to a 40 KVA, insuring that we can protect more servers and equipment from a sudden loss of power.
- Installation of a new T1 data circuit for the New Orleans office.
- Started a new project to allow users to store their data on the network to ensure it is backed up properly. (We are in the initial phases of this project).
- Installed DSL service in Booker Fowler's visiting center, as well as Beachwood and Waddill refuges.

Finally, the Technical Section is responsible for maintaining the underlying network infrastructure that allows all the computers to communicate with one another. This involves monitoring the network for problems and diagnosing and repairing network routers, switches, hubs, VPN concentrators and telephone data circuits (local and for all remote facilities). Included with this is guarding the network from internal and external threats (hackers/viruses), and maintaining Internet connectivity for all internal users.

APPLICATION DEVELOPMENT SECTION

The Application Development Team consists of five employees and is responsible for maintaining all custom written applications and new application development. Our applications run on a combination of mainframe and windows server environments. Current applications that the staff has developed and supports include:

- Web based Enforcement system for issuing and tracking violations.
- Enforcement complaint system.
- Enforcement time sheet system.
- Enforcement revocations system.
- Enforcement seafood inspection system.
- Motorboat application, for issuing motorboat permits.
- Commercial License application, for issuing commercial fishing licenses for LDWF.
- Magazine system for tracking the in-house *Conservationist* magazine.
- Training application for keeping track of mandatory and supervisory training.
- Zip code lookup application.



- Alligator system for tracking all alligators processed commercially in LA.
- DPS system for looking up DMV records for residency validation.
- Lottery application to chose participants in the randomly drawn hunts.
- Hunter Education system for keeping track of participants in the mandatory hunter education program. It provides the public with the ability to request a duplicate hunting safety card online and receive online fulfillment. This is at no cost to the individual or LDWF.
- Revocation system for keeping track of individuals that may not purchase licenses.
- Sports License (lifetime license printing).
- Web-based displaced boat lookup (to help public locate lost boats).
- Web-based DMAP, system for keeping track of deer management applications.
- Web-based Oyster Tag sales system.
- Trip Ticket employee performance system.
- Legal application for tracking legal rulings and information.
- Track commercial fishing shipments from/to the state for the Enforcement Division.
- Employee Portal. This application used by employees to launch other LDWF developed web-based applications.

IMAGING SECTION

The Imaging Section consists of three employees and is tasked with scanning and indexing LDWF documents which include:

- Federally mandated Trip Ticket data (from commercial dealers, used in tracking commercial harvest information).
- Boating safety applications (new and backlog).
- Hunter safety applications (new and backlog).
- Bow hunter student applications (new and backlog).
- Enforcement complaint forms.
- Enforcement time sheets.
- Enforcement seafood inspection forms.
- Enforcement vessel inspection forms.
- Motorboat revenue checks.
- Other revenue checks.
- Shrimp Excise Tax forms. This helps our accounting division keep track of excise tax monies.
- Licensing backlog.

The Imaging Section takes requests from Louisiana seafood dealers in person, on the phone, by mail and by fax. These orders can be very time consuming as they often need to explain the variety of forms and their usage. The 2004-2005 hurricane season damaged/destroyed many seafood dealer locations. The imaging section continues to work with dealers destroyed by Hurricanes Katrina and Rita. The section is constantly preparing the much needed information to supply over 2,000 maintenance packets and over 1,000 new dealer packets each month.

The Imaging Section not only scans a vast number of documents for the agency, but verifies and corrects the data as well. This is very tedious work due to the wide ranges of handwriting and poor conditions of the forms when they arrive. In addition to scanning duties, the Imaging Section runs nightly reports for the LDWF's applications systems and helps compile and print reports for the Public Information, Enforcement, Commercial License, Hunter Safety, Motorboat and Recreational License sections.

The system that the Imaging Section staff maintains is used by the Motorboat section to image and archive all motorboat applications/renewals. Human Resources also images every employee document into the system. The imaging system cuts back drastically on the amount of paper documents that must be maintained, makes it possible for instantaneous search/retrieval of these documents and allows multiple HR analysts to access the same records concurrently and securely.

FISCAL

The Fiscal Section is staffed by 17 employees and is responsible for all financial operations of the department. The main goal of the Fiscal Section is to achieve compliance with all applicable laws, rules, policies and regulations governing the functions managed. The section develops and implements fiscal controls, provides advice, assistance and training and standardizes procedures. In addition, the Services Unit provides mail, receiving and duplicating services for the headquarters offices.

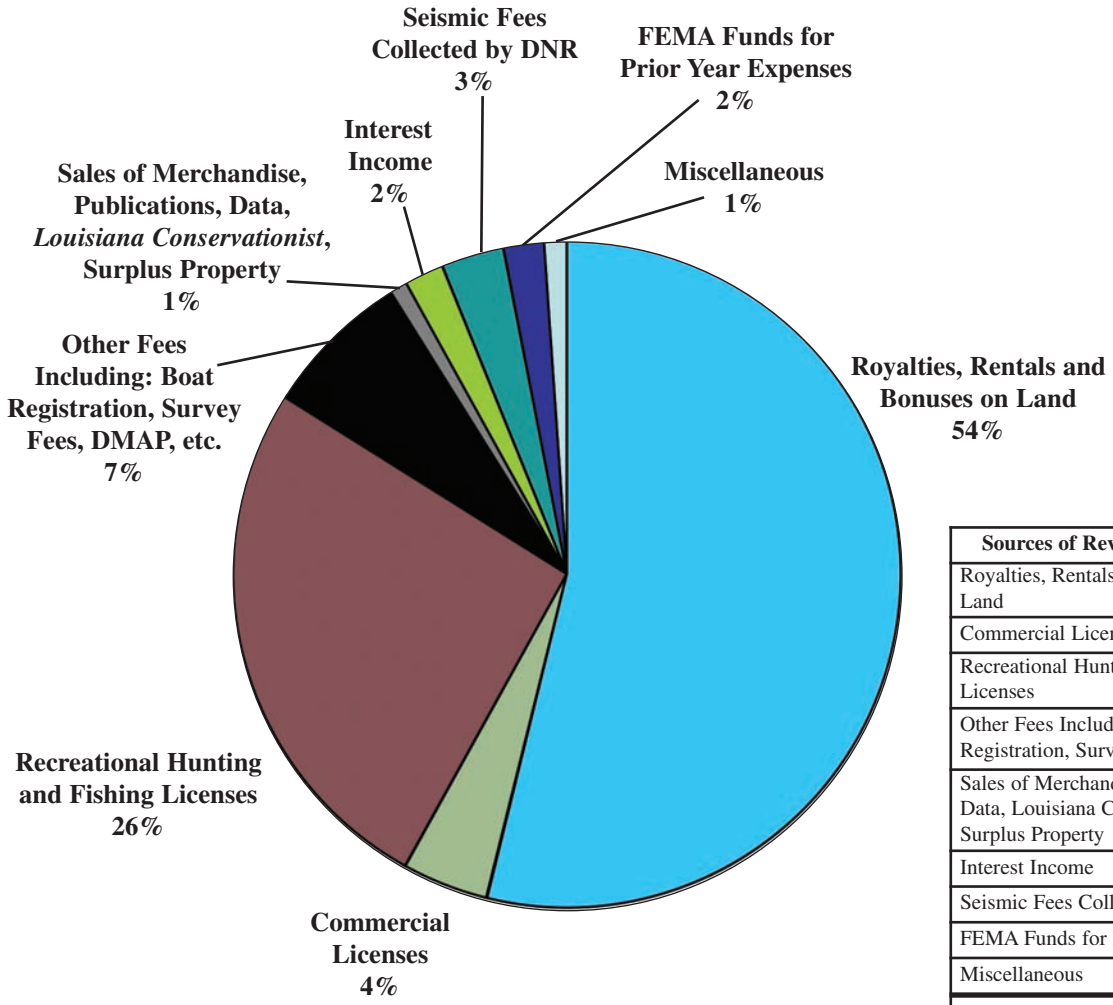
The functions of the Fiscal Section include budget and expenditure control and monitoring, federal grant tracking and reporting, preparation of all required financial reports, reviewing and processing professional and consulting contracts, payment of all vendors, receipt and classification of various sources revenue, fund management, assessment of civil fines, telecommunications services, processing of employee travel reimbursements, liability insurance reporting, procurement, administration of the state's purchasing card, mail/receiving/duplicating and strategic and operational planning.

During fiscal year 2006-2007, the fiscal staff:

- reviewed 289 new contracts with a total amount payable of $13.6 million.
- processed 287 payments on contracts for $2.8 million.
- handled service and billing for 280 cellular accounts.
- responded to 177 requests for telecommunications services and repairs.
- processed 10,573 vendor payments.
- audited and processed 4727 purchasing card statements.
- warranted funds and prepared periodic reports on almost 100 grants.
- deposited $29.8 million in receipts from various sources.
- assisted with implementation of $53 million in fisheries disaster assistance grants.
- processed 115 procurement contracts and 3,639 other types of purchases.
- handled 52 leases of equipment and buildings.
- maintained 672 state purchasing card accounts.
- processed over 320,000 pieces of mail.

Fiscal Year 2006-2007 Sources of Revenue to the Conservation Fund

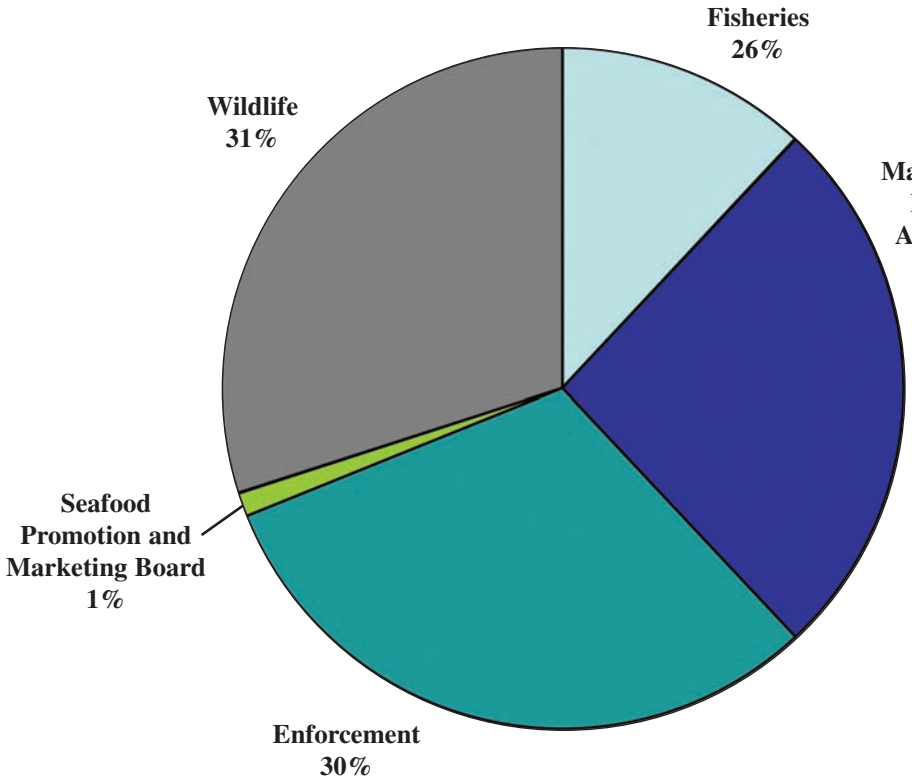
Total Revenue = $62,200,396



Sources of Revenue to the Conservation Fund	
Royalties, Rentals and Bonuses on Land	33,317,378
Commercial Licenses	2,682,488
Recreational Hunting and Fishing Licenses	16,313,384
Other Fees Including: Boat Registration, Survey Fees, DMAP, etc.	4,229,179
Sales of Merchandise, Publications, Data, Louisiana Conservationist, Surplus Property	674,519
Interest Income	1,381,850
Seismic Fees Collected by DNR	1,760,931
FEMA Funds for Prior Year Expenses	1,055,083
Miscellaneous	785,584
Total	**$62,200,396**

Fiscal Year 2006-2007 LDWF Expenditures by Appropriated Program

Total Revenue = $79,762,630

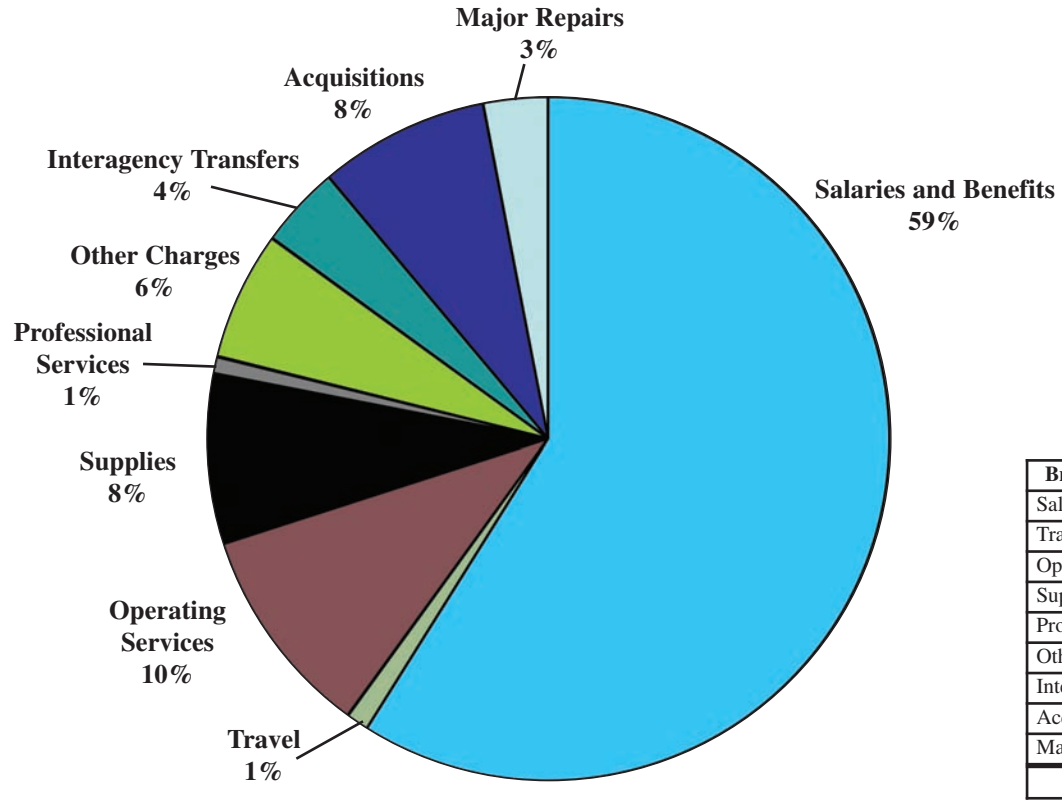


Breakdown of Expenditures by Program	
Management and Finance and Administrative	9,450,426
Enforcement	24,483,912
Seafood Promotion and Marketing Board	735,413
Wildlife	24,492,492
Fisheries	20,600,387
Total	**$79,762,630**

Fiscal Year 2006-2007 LDWF Expenditures by Category (type)

Total Expenditures = $79,762,630

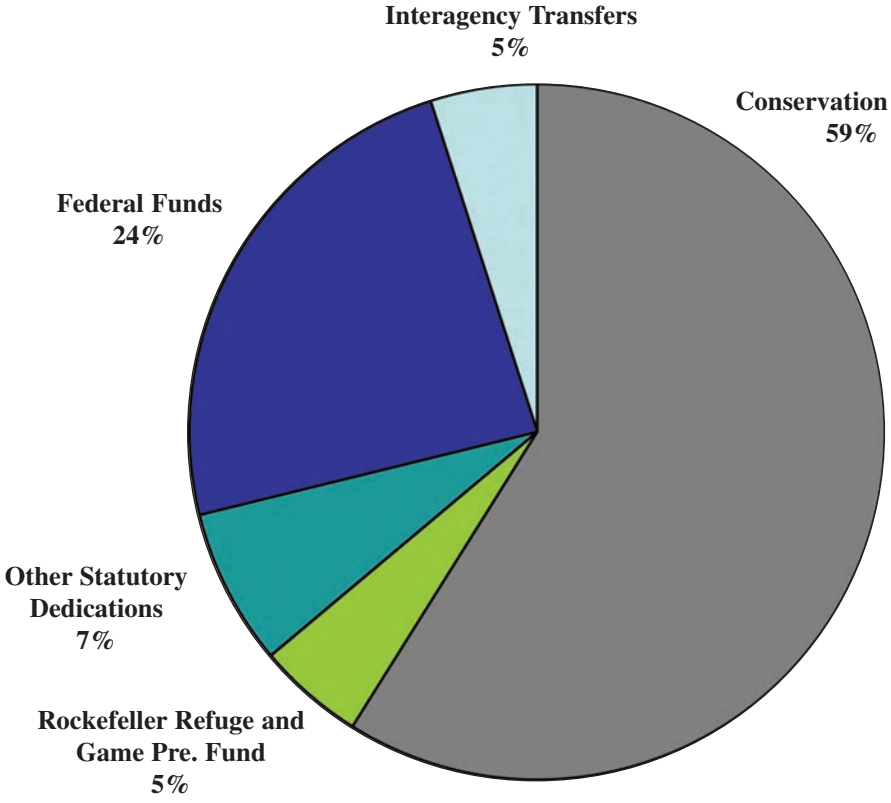
Total Positions = 795



Breakdown of Expenditures by Category	
Salaries and Benefits	46,936,778
Travel	510,494
Operating Services	8,253,765
Supplies	6,064,928
Professional Services	1,003,971
Other Charges	5,107,601
Interagency Transfers	3,273,093
Acquisitions	6,397,851
Major Repairs	2,214,149
Total	**$79,762,630**

How Fiscal Year 2006-2007 Expenditures Were Funded (Means of Financing)

Total Means of Financing = $79,762,630



How Expenditures Were Funded	
Interagency Transfers	3,907,793
Conservation Fund*	47,455,491
Rockefeller Refuge and Game Pre. Fund	3,630,077
Other Statutory Dedications	5,683,708
State General Fund**	239,984
Fees and Self-Generated Revenue**	61,008
Federal Funds	18,784,569
Total	**$79,762,630**

** Conservation Fund is comprised of about 60 percent commercial and recreational licenses and other permits; 20 percent oil/gas royalty type revenue*

*** State General Fund and Fees and Self-Generated Revenue combined make up less than 1 percent.*

HUMAN RESOURCES

At Wildlife and Fisheries, our most valuable resource is our human resources, the people who direct all of our other resources and get the work done on behalf of the Louisiana taxpayers, users and consumers of Louisiana's natural resources and products.

The authorized number of employees for LDWF for fiscal year 2006-2007 was 800. LDWF also employed students throughout the state.

Along with our active employees, we also provide service and guidance to retirees, former employees and their dependents.

One of the responsibilities of the Human Resource section is the comprehensive administration of our employees' personnel actions.

The Human Resources section is responsible for several program areas: Human Resource Administration (policies and procedures, civil service rules); EEO Compliance (ADA); Performance Appraisal; Training and Staff Development (CPTP, MST, agency sponsored training); Employee Relations (employee counseling, Employee Assistance Program, grievances); Drug Testing; Employee Recognition Program; Classification (Position Descriptions, Job Studies, Audits); Wage and Salary Administration; Recruitment Program; Selection and Placement; Benefits Program (health, life and miscellaneous insurance, retirement, workers' compensation, leave management, unemployment and FMLA); Operations (employee files, personnel actions, enrollment and exiting of employees); Payroll Administration (ISIS system); Safety; Workforce Development; and Affirmative Action.

In an effort to enhance safety and productivity in the LDWF workforce, we continue to work with employees and management to develop safe and productive work conditions through several of our programs such as Safety, Planning and Performance Review and Training and Staff Development.

LICENSING

The Licensing Section serves as the information hub for more than one million customers who recreationally fish, hunt, commercially fish and use state lands for non-consumptive purposes. The staff provides customers with state, federal and commission laws, rules and regulations that govern fishing, hunting and registration of boats in Louisiana. The Licensing Section handles the issuance of all commercial licenses, boat registration services and manages the statewide electronic licensing system providing recreational license availability at more than 700 locations statewide, and recreational licenses and boat registration renewals via internet and telephone. We accommodate commercial license sales at the Bourg location for three day periods during the months of December and April. The Licensing Section continues to evaluate processes and streamline to improve availability and reduce processing time for licenses and boat registrations.

License/registration activities and related revenue collections are as follows:

- 1.67 million recreational hunting, fishing, trapping and non-consumptive use of state lands licenses sold to 800,000+ customers, generating in excess of $19 million in revenue, and maintain license records for more than 45,000 lifetime licensees.
- 65,374 commercial licenses sold, representing approximately 15,000 customers, generating $3.13 million in revenue.
- 135,401 boat registration applications, generating $3.3 million in revenue, maintaining data for boats in access of one million records, 322,805 of which are active registered.
- Made available various types of oyster tags as required by federal and state law, in excess of two million, to oyster fishermen and processors, generating in excess of $265,000

Licensing staff attends the Annual Conservation Business Managers Association Conference, Southeastern Fish and Wildlife Agencies Conference and ACES Conference.

PROPERTY CONTROL

The Property Control Section is responsible for managing the department's Property and Fleet Management programs. The section is staffed with four fulltime employees.

PROPERTY CONTROL PROGRAM

During fiscal year 2006-2007 this program certified a moveable property inventory which consisted of 8,444 items for a total acquisition cost of $44,676,390. Annually, the program is responsible for ensuring that a physical inventory of moveable property is conducted at the various 88 locations throughout the state.

The Property Control Section processed $5,808,259 in acquisitions and $3,784,390 in dispositions of inventoried moveable property during fiscal year 2006-2007.

FLEET MANAGEMENT PROGRAM

In accordance with state fleet management regulations this section records, approves and processes requests for personal assignment or home storage, daily vehicle usage, vehicle maintenance, and titles, registrations and vehicle licenses for the department's 566 fleet and 656 other licensed vehicles.

The Property Control Section also manages the 10 vehicles assigned to the Baton Rouge Headquarters Motor Pool.

RISK MANAGEMENT PROGRAM

The Property Control Section is responsible for filing insurance claims and recovering payment from the Office of Risk Management and third party insurance companies for property damage, automobile physical and liability damage, wet marine, aviation, boiler and machinery damage. The section is also responsible for filing general liability insurance claims.

Driver's authorization and annual certification for the department's approximate 800 employees is also a responsibility of the Property Control section. This process is accomplished in accordance with Office of Risk Management's loss prevention guidelines.

PUBLIC INFORMATION

The Public Information Office (PIO) handles the primary communication programs for the Louisiana Department of Wildlife and Fisheries (LDWF). These programs cover a variety of communication avenues including publications (regulations, books, pamphlets, newsletters, etc), *Louisiana Conservationist* magazine, news and media relations, audio-video productions, Web site, public resource library, public relations and special events. The office employs 12 full time staff members. The PIO also serves as support staff to the Louisiana Wildlife and Fisheries Foundation.

PUBLICATIONS

The publications unit is responsible for the creation and creativity of specialized publications, hunting and fishing regulations and annual report. All pre-press functions, editing and printing approvals are handled through the PIO.

Specialized publications include any publication that is not produced on a regular basis and used for educational, informational or promotional use for LDWF conservation management programs. During fiscal year 2006-2007 the publications unit designed and published the following specialized publications:

- Louisiana Forest Stewardship newsletter
- Louisiana Wildlife and Fisheries Foundation newsletter
- "Bear Safety in Mind - Hunters Edition" brochure
- Louisiana wild game and seafood recipe cards
- Bobcat, Fox and Coyote Hunter Survey
- "Your New Career: The Great Outdoors" booklet (second edition)

Annual publications included the annual report, recreational and commercial fishing regulations, hunting seasons and wildlife management area regulations, migratory game bird hunting regulations, turkey hunting regulations and trapping regulations.

LOUISIANA CONSERVATIONIST MAGAZINE

The *Louisiana Conservationist* magazine (*LCM*) is the most widely known of the office's programs and is LDWF's most prominent publication. It is the state's oldest outdoor magazine with its first publication in 1923 as a small black and white newsletter. Through the generations it has grown to a 36-page, full-color magazine and remained in continuous publication since its beginning. In the fall of 2006 *LCM* moved to a quarterly publishing schedule due to budget restraints, producing an issue for each season. The new reduced publication scheduled allowed the department to keep this historical publication and cut production costs. Circulation at the end of fiscal year 2006-2007 was 16, 617, a drop of approximately 1,600 subscribers since the new publication schedule.

NEWS AND MEDIA RELATIONS

In fiscal year 2006-2007, the LDWF news service provided 357 news releases and features to approximately 150 media outlets through an electronic weekly mailing. During this fiscal year the department's biweekly industry newsletter moved to the Web site with 2,060 individuals signing on by June 30, 2007. The interest in our newsletter continues to grow with 3,776 signed on at the time of this publication.

Statewide public meetings continued as in past years. These meetings are held in seven locations statewide to inform the public of the proposed hunting season dates and wildlife management area regulations. PIO staff assisted the Wildlife Division with the coordination and coverage of the meetings.

The news and media relations unit also coordinates media events, press conferences, interviews and specialized information campaigns. There were eight LDWF media events highlighted in this fiscal year:

- Chalmette Ice House Dedication
- Operation Lily Pad
- Red River Bass Stocking
- Grassland Habitat Restoration
- Back to the Dock Program
- No License Required Fishing Weekend
- Orphaned Black Bear Release
- Brown Pelican Relocation Project

AUDIO-VIDEO PRODUCTIONS

The audio-video unit within the PIO handles the department's specialized audio and video requests, video news releases (VNRs) and recording of meetings and events. Several events were covered by the audio-video unit, including the official recordings of the monthly LDWF commission meetings. The following is a breakdown of events covered through the A/V unit.

VNRs:

- Chalmette Ice House Dedication
- Free Fishing Days
- National Hunting and Fishing Day 2006
- Pelican Relocation
- Black Bear Relocation
- Grand Isle Ground Breaking

Specialty Videos:

- Association for Conservation Information, Inc. Awards Presentation
- Enforcement Cadet Commencement Video 12/06
- Enforcement Cadet Commencement Video 05/07
- Enforcement Agent Recruitment Video (30 seconds)

Media request for video: (raw footage)

- Discover Louisiana Hunting Program
- Cultch Planting Press Event
- National Hunting and Fishing Day 2006

PUBLIC INFORMATION AND RESOURCE LIBRARY

The Public Information and Resource Library is open for public access Monday through Friday, 8 a.m. - 4:30 p.m. Available materials include various natural resource related publications, *Louisiana Conservationist*, wildlife management area maps, historic books and documents, regulation pamphlets and a selection of VHS videos available for loan. The library also houses the department's small marketing unit that retails items generated within LDWF. These items include maps, books, posters, manuals and various other documents created by its employees.

The library receives public information request on a daily basis. The total number of information requests received for fiscal year 2006-2007 was 6,757. The breakdown by source was as follows:

- E-mail 145
- U.S. Mail 91
- Phone 3,533
- Walk-in 2,988

Another element of the library is the department's reception area located at the headquarters building in Baton Rouge. This front line contact is operated and maintained by the PIO and serves as the security check point. All inquiries, phone calls and walk-in visitors are cataloged by month. The total number of inquiries for this fiscal year was 23,688 walk-ins and 32,887 phone calls.

SPECIAL PROMOTIONS/ACTIVITIES

The PIO is responsible for organizing and executing special public and promotional events for the department. These events are the responsibility of all PIO units with each unit contributing their expertise.

Public Information organized a "Step Outside" program for LDWF employees. The event took place April 20, 2007 at the Waddill Education Center in Baton Rouge. This was the first year for the program and was offered to Region 7 employees as a test pilot. The program's goal was to offer a day away from the office to experience the outdoor activities that our agency promotes and regulates. Many employees hold jobs that require only office duties, prohibiting them from experiencing field work. Therefore, this program gave them first hand experience. With the assistance of the Wildlife Division Education Section, employees participated in fishing, boating and shooting activities. "Step Outside" is a national program, offered through the National Sport Shooting Foundation, which encourages outdoor enthusiasts to introduce family and friends to outdoor sports. LDWF's goal was to introduce employees to the outdoors. Forty employees from Region 7 attended the event and 100 percent of the follow-up surveys were positive. There are plans to repeat the event in 2008 for employees statewide.

Public relations, promotional and public events organized and executed by the PIO included:

- Louisiana Restaurant Association Annual Convention - exhibit in the Gulf Coast Seafood Pavilion. PIO staff also assisted the Louisiana Seafood Promotion and Marketing Board with on-site help at the America Seafood Challenge
- Louisiana's National Hunting and Fishing Day Celebration - Baton Rouge location
- Louisiana Outdoor Writers Association Annual Conference - exhibit
- National Marine Manufacturer's Convention - exhibit with the Recreational Boating and Fishing Foundation

WEB SITE

LDWF's new Web site went into its second year. During fiscal year 2006-07 there were 5,423 hits on the home page. With approximately 3,000 available pages on the site, the public had full access to general information, rules and regulations, educational programs and department staff contacts. Efforts continued to improve efficiency, convenience and better accessibility of services to the public. Some of the special features of the LDWF Web site are:

- License Wizard
- Request a Speaker
- Quick Links (hunting, fishing, boating & wildlife watching)
- Revolving Featured WMA
- LA Announcements
- News Archives
- Current LDWF Events

SOCIOECONOMIC RESEARCH AND DEVELOPMENT

The Socioeconomic Research and Development Section (SRD) was established in 1992 within the Office of Management and Finance of the Louisiana Department of Wildlife and Fisheries. The duties and responsibilities of the section are:

- to recommend, conduct and coordinate economic research studies pertaining to wildlife and fisheries resources of Louisiana and the Gulf Region.
- to present research findings at appropriate professional and scientific meetings and publish results in departmental publications and peer-reviewed scientific journals.
- to provide information and support to other sections and divisions within the department, as well as agencies outside the department, to assist them in accomplishing their research needs, management tasks and short and long-term objectives.
- to represent the department and state in various study groups, on task forces and on committees established to study, manage and improve wildlife and fisheries resources at the local, state, regional and national levels.
- to administer and implement special programs.
- to perform other activities as directed by LDWF's appointing authorities.

PUBLICATIONS AND REPORTS

- Isaacs, Jack Coburn. "An Examination of Markets for Fur and Fur Goods and Their Influence on the Louisiana Nutria Pelt Market." Socioeconomic Research and Development Section, Louisiana Department of Wildlife and Fisheries, Baton Rouge, Louisiana, LSU Sea Grant Subgrant No. C164094, December 2006.

- "Boater's Guide to Marine Sewage Disposal in Louisiana." Socioeconomic Research and Development Section, Louisiana Department of Wildlife and Fisheries, Baton Rouge, Louisiana.

PRESENTATIONS

- Holloway, Herb. "The Louisiana Shrimp Industry and Katrina: Impacts and Recovery." Presented at the 2006 Annual Meeting of the American Fisheries Society, Lake Placid, New York, September 9-14, 2006.

- Isaacs, Jack Coburn. "Possible Economic Implications of Freshwater Diversions." Presented to the Habitat Subcommittee at the 57th Annual Spring Meeting of the Gulf States Marine Fisheries Commission, Biloxi, Mississippi, March 12, 2007.

- Isaacs, Jack Coburn. "Goals and Purposes of the Louisiana Shrimp Dealers' Survey." Presented at the Annual Meeting of the American Shellfish Processors Association, Biloxi, Mississippi, April 20, 2007.

REPRESENTATION ON TASK FORCES, STUDY GROUPS AND COMMITTEES

During fiscal year 2006-2007, staff members of the Socioeconomic Research and Development Section represented LDWF on the following task forces, study groups and committees:

- Gulf States Marine Fisheries Commission Disaster Recovery Program Committee.
- Gulf States Marine Fisheries Commission FIN Social/ Economic Work Group.
- Louisiana Blue Crab Task Force.
- Louisiana Clean Marina Program Committee.
- Louisiana Ozone Action Committee.
- Louisiana State Seafood Industry Advisory Board.
- Louisiana Wild Crawfish Task Force.
- Socioeconomic Panel of the Gulf of Mexico Fisheries Management Council.
- Socioeconomic Section of the American Fisheries Society.
- Technical Advisory Committee for the U.S. Fish and Wildlife Service's National Survey of Fishing, Hunting and Wildlife-Associated Recreation.

FISCAL AND ECONOMIC IMPACT STATEMENTS

With assistance from the various program managers within the Offices of the Louisiana Department of Wildlife and Fisheries, the Socioeconomic Research and Development Section prepares Fiscal and Economic Impact Statements that accompany the Notices of Intent and Rules considered for adoption by the Louisiana Wildlife and Fisheries Commission. During fiscal year 2006-2007, a total of 22 Fiscal and Economic Impact Statements were developed and published along with the Notice of Intents in the Louisiana Register.

SPECIAL PROGRAMS, PROJECTS AND SURVEYS

Special programs, projects and surveys administered by the section during fiscal year 2006-2007 included the Clean Vessel Program, the Louisiana Nutria Harvest and Environmental Impact Project, the LDWF Language Assistance Plan, the Louisiana Senior Sportsman Survey and the Louisiana Shrimp Dealers' Survey. A description of each program and a list of accomplishments for fiscal year 2006-2007 are presented below.

Clean Vessel Program

The Clean Vessel Program provides funds to owners of recreational boating facilities for construction and renovation of boat sewage disposal facilities. The purpose of this program is to reduce overboard discharge of raw boat sewage in Louisiana's waters by providing boaters with a safe and convenient method to dispose of boat sewage. Under the program, recreational boating facility owners are reimbursed up to 75 percent of the costs of approved activities. Funds are also used to develop and distribute educational and promotional materials to encourage boaters to use these facilities and to promote environmentally responsible behavior. Clean Vessel activities in fiscal year 2006-2007 include:

- The Clean Vessel Program entered into a Cooperative Endeavor Agreement with Paul Allain Properties in New Iberia, LA in May 2005 for construction of a boat sewage pumpout facility on Bayou Teche. Equipment was purchased and construction began, until a submerged shipwreck was discovered in November 2005. LDWF then contracted with Coastal Environments, Inc. to assess the historical significance of the find. That study and report were completed in March 2007. With the shipwreck having been determined as historically significant, changes were made to the project design to prevent any damage to the shipwreck by

construction or future use of the facility. The revised Allain CVA project is scheduled for completion in fiscal year 2007-2008.

- The Clean Vessel Program entered into a Cooperative Endeavor Agreement with Northshore Marine Sales and Service, Inc. in Mandeville, LA in March 2007 for construction of a boat sewage pumpout facility on Bayou Castine. The project is anticipated to be completed in fiscal year 2007-2008.

- Application materials were provided to several marinas, and SRD staff also provided information and assisted with completion of the application documents where needed.

- Educational information and promotional items were distributed at the National Hunting and Fishing Day in Baton Rouge, Louisiana in September 2006 and at the Earth Day Celebration in Baton Rouge, Louisiana in April 2007.

Louisiana Nutria Harvest and Environmental Impact Project

The Socioeconomic Research and Development Section, in cooperation with the LSU Department of Agricultural Economics and the Coastal Fisheries Institute, began a project in fiscal year 2003-2004 to examine the economics of nutria pelt harvests and the impact of nutria populations on Louisiana's coastal marsh. This project consists of three main stages:

- *Estimation of Supply Curve for Nutria Pelts in Louisiana Coastal marshes* - This stage developed a supply curve for nutria pelts using historical data for Louisiana nutria harvests and prices plus environmental variables such as winter severity and alligator stock levels. This allowed the estimation of expected harvests under alternative trapper incentive levels (bounties).

- *A Bioeconomic Model of Nutria Harvests and Related Impacts on Louisiana Coastal Marsh* - This research employed a published biological model of nutria populations, marsh biomass and wetland acreage developed by the USGS National Wetlands Research Center in Lafayette, Louisiana in order to examine the efficacy in maintaining coastal marsh of alternative nutria harvests under various price levels. This research provided the basis of a Master's degree thesis in the Louisiana State University Environmental Studies program.

- *Estimation of Nutria Pelt Demand* - This portion of the project examined the factors that influence the trapper-level demand for nutria pelts in Louisiana. Researchers have obtained domestic fur harvest data for several species from the United States Department of Agriculture and international trade data from the United Nations and have pursued means of assessing cultural and market trends affecting the demand for fur and fur products.

This project was completed and the final report for the Louisiana Nutria Harvest and Environmental Impact Project was published in January 2007.

LDWF Language Assistance Plan

The United States Fish and Wildlife Service (USFWS), a federal agency that works in cooperation with the Louisiana Department of Wildlife and Fisheries (LDWF) and funds activities conducted by this agency, notified LDWF of the need to develop a Language Assistance Plan (LAP) to improve the access of persons with limited English proficiency (LEP) to LDWF programs.

The Socioeconomic Research and Development Section was given the task of developing an effective language assistance plan for the department. Following the completion of the self-assessment process, the SRD Section started two surveys in January 2005 designed to assess the language assistance needs of its customers.

The first assessment effort focused on department employees' telephone and other personal contacts. For two days of each month, each employee was asked to tally that day's total number of contacts with people from outside the department and to record how many of these customers exhibited limited English proficiency.

The second assessment effort consisted of a mail survey sent to 20,000 customers, especially commercial fishermen. This survey asked respondents to identify their primary language, proficiency in English and the extent and nature of their interaction with LDWF. These surveys continued through November 2005. An assessment of the results was published in the spring of 2006.

A professional service contract was executed between LDWF and Tele-Interpreters on Call to provide 24-hour telephone language translation services for 150 languages.

An SRD staff member met with a representative of the Asian American Justice Center in April 2007 to discuss the language assistance needs of Vietnamese-American commercial fishermen in Louisiana.

Louisiana Senior Sportsman Survey

In cooperation with the Wildlife Division of LDWF, a survey instrument was developed to gauge the participation in various hunting and fishing activities by purchasers of the Senior Sportsman's License. Surveys were mailed to 10,000 license holders in the spring of 2005. A preliminary report on the hunting activities of respondents and statewide estimates of senior hunting activity was provided to the Wildlife Division in the spring of 2006.

Although analysis continued during fiscal year 2006-2007, layoffs and associated staffing reductions delayed the completion of this project. Final hunting and fishing reports will be published in fiscal year 2007-2008.

Louisiana Shrimp Dealers' Survey

As part of LDWF's tasks under the Louisiana Shrimp Industry Disaster Assistance Grant (NOAA Grant # NA03NMF4520310), a survey of shrimp dealers and processors was developed in order to gain information on the market structure of the Louisiana shrimp industry.

Data collection is scheduled to begin in July 2007 and results will be included in the grant's final report in January 2008.

Office of Wildlife

The Office of Wildlife consists of two divisions, Wildlife Division and Fur and Refuge Division.

Wildlife Division

The Wildlife Division is responsible for the state's wildlife conservation program and gathering biological data to properly manage wildlife resources.

Fur and Refuge Division

Active marsh management is the primary responsibility of the Fur and Refuge Division. Responsibilities of the division are divided into eight major categories: Coastal Stewardship Operations; Fur and Marsh Management; Alligator Management; Permitting and Mineral Management; Rockefeller Refuge; Habitat Conservation; Education and Maintenance.

WILDLIFE RESEARCH

A wide range of research and management work is conducted in order to maintain healthy productive populations of game and to provide recreational opportunities for citizens to enjoy these species. Staff biologists gather data on game birds and animals, largely for use in formulating hunting regulations and development of habitat management recommendations. They develop workshops for LDWF and other agencies' personnel training and present seminars to the public. In addition, the staff represents LDWF on state, regional and national committees, providing wildlife input to a wide array of public agencies, non-governmental organizations (NGOs) and private industry. The game species programs are White-tailed Deer, Upland Game, Wild Turkey and Waterfowl. A new Wildlife Disease program was added during fiscal year 2006-2007 to address escalating concerns of wildlife diseases from a spreading urban society.

White-tailed Deer

During the 2006-2007 deer season, 160,500 deer hunters harvested 195,200 white-tailed deer. On Wildlife Management Areas (WMAs) during managed deer hunts, there were 3,094 deer harvested. The total hunter effort for the managed deer hunts was 27,215. The Deer Management Assistance Program (DMAP) cooperators harvested 12,687 deer. There were 622 clubs and landowners enrolled in this program. Louisiana Antlerless Deer Tag (LADT) Harvest in 2006 was approximately 9,484 with 821 cooperators enrolled.

Deer harvest information was entered into a computer program for analysis and evaluation. This data was used to establish deer seasons for the 2007-2008 season. Harvest data for WMAs and DMAP cooperators are summarized in Federal Aid W-55-21 Report.

Deer harvested during the years 2007-2009 will be documented in the sixth LA Big Game Recognition Program. Trophy deer that qualify for the State Record List are added to that list annually.

Disease and parasite investigations continued on both private and public lands. The Deer Telemetry Project was implemented with 38 deer captured and marked. Telemetry locations were taken two to three times weekly. The second year of trapping begins in February. A research proposal to study the potential genetic implications of the antlerless bucks collected last year is being considered. Efforts by the Wildlife Division to capture and mark deer at Pass-a-Loutre WMA continue. Eight deer were captured and marked there last year.

Upland Game

Dove

Populations have been monitored nationwide since 1953 by a call-count survey. This survey is used by the U.S. Fish and Wildlife Service (USFWS) to monitor mourning dove population trends. Biologists record the number of doves heard calling for a prescribed time during the nesting season along certain roadsides. Louisiana's dove population is monitored during May and June along 19 routes randomly located throughout the state. The Louisiana breeding population index based on doves heard along the routes was 17.9. This represents a 54 percent increase in doves heard from 2006. The 10-year and 40-year trends illustrate increases of 1.8 percent and 2.3 percent annually, respectively.

Dove hunting regulations for Louisiana in 2006-2007 were set at 70 days with a bag limit of 12 birds. Shooting hours remained unchanged from the year before, allowing all-day hunting, except on opening weekends of each segment when hunting was restricted to afternoons only. A survey of resident license holders indicates that approximately 40,500 Louisiana hunters harvested approximately 842,200 doves during the 2006-2007 hunting season; an estimated 33,300 Eurasian collared-doves were also taken.

In addition to dove fields on 10 WMAs, LDWF leases property from private landowners for public hunting. This land is leased for public hunting on opening day only. In 2006, three fields totaling 1,120 acres were leased. During the opening day hunt, 371 hunters participated, bagging 1,736 doves.

In the spring of 2003, the USFWS adopted a National Mourning Dove Harvest Management Plan. Determining current harvest rate in each management unit was identified as a key component the plan. Wildlife Division personnel banded approximately 2,400 doves during July-August 2006 as part of a national effort to provide information needed to develop harvest rate estimates for mourning doves.

Quail

Statewide fall whistling counts were conducted on 34 randomly located routes and an additional four routes on department WMAs and the Kisatchie National Forest. All regions of the state were unchanged from the prior year, except for the west-central region which recorded a statistically significant decline. All regions exhibit long-term declines. Inferences about population status and habitat conditions were developed based on the combined results of these two survey techniques and general observations by LDWF personnel during the breeding season. Data are summarized in the Federal Aid W-55-21 Annual Report.

A survey of resident license holders indicates that approximately 1,300 Louisiana hunters harvested 6,200 wild quail during the 2006-2007 season. Hunters were also asked about their harvest of pen-raised quail. About 3,500 hunters harvested over 3,500 pen-raised quail.

In an effort to address long-term population declines in bobwhite quail and other birds dependent on grassland habitat, LDWF has formed the Louisiana Quail and Grassland Bird Task Force. The task force is composed of representatives from at least 18 organizations or agencies and is charged with developing and implementing a plan to address the population declines of bobwhites and other grassland birds. The task force began developing a quail and grassland bird recovery plan.

A grant was obtained through the State Wildlife Grants program to purchase three no-till drills with specialized seed boxes capable of planting native grasses and forbs. The absence of such

equipment has been an obstacle in efforts to establish native grasses for wildlife and ecosystem restoration projects. A MOU with the Louisiana Association of RC&D Councils was signed in May 2007, making these drills available to Louisiana land managers through their local RC&D councils.

Woodcock

A woodcock banding program was initiated in 1990 to determine sex and age ratios, site fidelity, movement patterns and harvest rates of woodcock wintering in Louisiana. From November 2006-January 2007, 111 woodcock were banded on Sherburne WMA. Twelve direct band recoveries (12 percent) by hunters were reported. Nine indirect (one or more years after banding) were reported. Data are summarized in the Federal Aid W-55-21 Annual Report.

LDWF participated in the USFWS' Annual Woodcock Wing Bee in 2006. Data derived from aging and sexing about 12,000 woodcock wings were used to develop trend data on woodcock production and hunter success. These data, in combination with breeding bird surveys, are used to develop management strategies for woodcock. Although many people in Louisiana consider woodcock an underutilized species, Louisiana's harvest of woodcock at one time ranked among the nation's highest. However, the number of woodcock hunters has decreased by over 90 percent since their peak in the early 1980s. Nonetheless, Louisiana still consistently ranks fourth in the nation for woodcock harvest. A survey of resident license holders indicates that approximately 4,400 Louisiana hunters harvested 22,300 woodcock during the 2006-2007 season.

Wild Turkey

A poult production survey was initiated in 1994 to assess annual brood rearing success and monitor long-term production trends. The 2006 survey indicated a good hatch in the southwest, west-central, and Mississippi/Atchafalaya River floodplain regions. The remainder of the state experience fair production.

The most recent hunter harvest survey indicated 11,600 turkey hunters harvested 8,600 wild turkeys during the spring of 2006. The wild turkey population in Louisiana is estimated at about 80,000 birds.

LDWF is involved in two major wild turkey research projects. The department is supporting a wild turkey research project on Sherburne WMA in conjunction with the LSU School of Renewable Natural Resources, with additional support from the National Wild Turkey Federation. This project is investigating the influence of land management activities on raccoon predation of wild turkey nests. LDWF is also engaged in banding gobblers throughout the state. Banding gobblers, and subsequent reporting by hunters of banded gobblers they harvest, provides information needed to estimate wild turkey harvest rates throughout the state.

A random survey of licensed turkey hunters was conducted to gather information regarding their opinions of the turkey season dates and structure. Nearly 60 percent of respondents indicated that the current framework that opens the turkey season on the fourth Saturday in March was "about right," the remainder were split between preferring a later opening day (12 percent) and an earlier opening day (29 percent). A significant majority (71 percent) supported the statewide opening date.

Waterfowl

Louisiana has approximately 3.5 million acres of coastal marsh that winter large and diverse waterfowl populations. Aerial waterfowl inventories of the entire coastal marsh, as well as associated agricultural lands in north central and northeast Louisiana are conducted each winter.

The mid-winter inventory, conducted in early January 2007, indicated 4.74 million ducks and 748,000 geese wintered in coastal marsh and inland areas of the Mississippi Delta.

Based on federal harvest estimates, in the 2006-2007 waterfowl hunting season there were 56,000 active duck hunters that harvested 1.33 million ducks. This represents a 14 percent increase in the number of duck hunters and an increase of 50 percent in the duck harvest compared to the previous year. Species composition included 17 percent gadwall, 22 percent blue-winged teal, 14 percent green-winged teal, 12 percent ring-necked duck, 7 percent mallard and 10 percent wood duck, with pintail, shoveler, wigeon and scaup comprising most of the remainder.

Goose harvest was basically unchanged from the previous year at 156,000. White-fronted geese comprised 61 percent of the harvest and light geese (snows, blues and Ross') comprised 39 percent. Canada geese are an important bird in the bag locally, but were less than 1 percent of the total goose harvest statewide.

North American Waterfowl Management Plan

Louisiana is continuing to play an important role in the North American Waterfowl Management Plan (NAWMP). Large portions of two joint ventures are located in Louisiana: the Gulf Coast and Lower Mississippi Valley. LDWF has strived to maintain ongoing projects and other activities associated with the NAWMP. In fiscal year 2006-2007, the Manchac Shoreline Protection project funded by a North American Wetland Conservation Act (NAWCA) grant was redesigned and bid, but costs continue to exceed available funding. An expanded partnership including the U.S. Army Corps of Engineers met and expanded the project to include a longer breakwater and backfilling to replace lost marsh and increase protection of the WMA habitat. Engineering and design work was completed on another NAWCA grant project to construct or rebuild levees and water-control structures to provide waterfowl and shorebird habitat at Bayou Macon and Boeuf WMAs. Construction will begin in summer 2007. Another NAWCA grant was awarded to purchase forested wetland habitat to be added to the Joyce WMA. Two others were recommended to the NAWCA Council for funding to purchase additional acreage of bottomland hardwood habitat to be added to Sabine Island WMA and to refurbish levees and water-control structures at Russell Sage WMA.

Funding, equipment, personnel and coordination were provided for the second year of a major waterfowl research project of high priority to NAWMP joint ventures in Louisiana, the Mallard Telemetry project conducted by Bruce Davis and Paul Link and supervised by Dr. Alan Afton. Preliminary data show the importance of forested wetland habitat in northeast Louisiana to mallards and higher than expected hunting mortality. Final results are expected in fall 2007. An experiment designed to assess commercial herbicide mixes on controlling woody plants

encroaching on the Catahoula Lake basin was conducted, and a mixture chosen for application next fall. LDWF personnel also assisted in completing the NAWMP program assessment, the Catahoula and Big Branch National Wildlife Refuge reviews, and the NAWMP effort to support continued Conservation Reserve Program contracts that provided breeding habitat in northern prairie areas.

The Louisiana Waterfowl Project (LWP), a private land wetlands development program, has completed its 16th year. This is a cooperative statewide program involving LDWF, Ducks Unlimited, U.S. Department of Agriculture/Natural Resource Conservation Service, various pipeline companies and selected private landowners. USFWS became a partner in 1999-2000. During 2006-2007, 13 projects were completed, restoring or enhancing 6,668 acres. Since program inception in 1992, over 84,000 acres have been restored or enhanced. LWP goals and activities in the northern part of the state continue to shift more towards the Red River Valley, toward more natural marsh or green-tree habitats and less agricultural areas. LWP south will focus more on marsh habitats and fallow rice fields in the coastal zone.

Wood Ducks

During 2006, LDWF banded 2,131 wood ducks, well above the 1,705 banded the year before. Approximately 516 were captured in nesting boxes, and 1,615 were captured using cannon nets.

The wood duck box program completed its 17th year in 2006. LDWF personnel are primarily on a maintenance schedule for nest boxes with over 2,800 boxes now in use. LDWF's focus is to replace old boxes rather than add to the total. Over 1,100 of those boxes are within Region VI. Box utilization is not evaluated every year, but has ranged from 45-100 percent in past years with an average utilization of about 80 percent.

Wildlife Disease

The realization of a statewide Wildlife Disease Program has been achieved during the first four months of development. Specific items that were addressed during the establishment of the program were the creation of a Wildlife Disease web link, Chronic Wasting Disease (CWD) surveillance, Avian Influenza virus surveillance and feral hog damage assessment and control.

A Wildlife Disease web link has been added to the LDWF Web site. The link provides information on pertinent wildlife diseases found in our state. Several wildlife disease news releases have been submitted and placed in the "Top Story" section of the Web site. News releases and articles for the web link will be an on-going project

The statewide CWD surveillance program for 2007 was completed ahead of schedule, and the samples were shipped to SCWDS for evaluation. During fiscal year 2006-2007, the CWD samples were taken from target animals and animals from areas of concern. Approximately 300 samples were collected from the seven regions; all samples tested negative for the disease.

Sampling efforts for the 2007 Avian Influence (AI) Surveillance Program have also been completed ahead of schedule. Louisiana's sampling goals during fiscal year 2006-2007 called for collecting 750 samples from wild migratory birds. Of this total, 250 wood duck, 250 blue-winged teal, 250 northern pintail and 150 shorebirds were sampled and shipped to a lab in Arkansas for detection of the AI virus. Hunter-harvested birds accounted for the highest percentage of samples collected; live wild bird sampling was coordinated with the LDWF's duck banding program.

The television program *Paradise Louisiana*, filmed an early morning wood duck capture-and-release event in Region VI for a fall episode. The duck banding program and the AI surveillance program was explained to viewers. The episode also demonstrated the coordinated efforts between the LDWF's duck banding program and the AI surveillance program.

House Concurrent Resolution No. 192 requests the Louisiana Department of Wildlife and Fisheries to study all possible methods to reduce the number of feral hogs on private land adjacent to WMAs. In response to this request, an organizational meeting was held with the State Veterinarian to discuss measures to aid in the control of feral hog populations. A collaborative effort between LDWF, Louisiana Department of Agriculture, USDA/APHIS/WS and LSU is being pursued to identify and determine the frequency of disease within the feral hog population. The overall goals of the surveillance program are to 1) identify diseases carried by feral swine, 2) minimize the effects of the diseases on wildlife, and 3) control the population of feral hogs in Louisiana.

LAND DEVELOPMENT AND MANAGEMENT

Land development involves both wildlife habitat enhancement and infrastructure improvement to accommodate public use of the 52 WMAs. Typical activities include road and bridge repair and construction, vegetation control, tree planting, water control structure operation, pump station operation, wildlife food plot development and boundary maintenance. Coordination and monitoring of mineral exploration activities is also a function of the Wildlife Division on WMAs.

Land Acquisition

Land acquisition and development for wildlife management purposes is the best way to ensure that there is sufficient quality habitat for the state's diverse wildlife resources. During fiscal year 2006-2007 and pursuant to Act 1037 of the 2001 Regular Legislative Session, one land exchange between LDWF and a private landowner was completed. In exchange for 300 acres known as the Chauvin Tract near Monroe, La., 776 acres were added to Ouachita WMA .

Forestry Program

The mission of the Forest Management Program is to improve forest and wildlife habitat on WMAs through sound forest management, reforestation practices and active forest/wildlife research activities. This program also serves to demonstrate the integration of forest management and wildlife habitat management to private landowners.

Public Lands

Forest inventories on WMAs were postponed during fiscal year 2006-2007. A backlog of forest prescriptions allowed for the suspension while a new forest inventory system was developed.

This new inventory system was developed by the Lower Mississippi Valley Joint Venture (LMVJV) Forest Resource Conservation Group, which is a cooperative working group consisting of the LDWF, USFWS, NRCS, state wildlife and fish agencies within the Mississippi Alluvial Valley and several other government and non-governmental agencies. A training session was developed to introduce the new inventory system to potential inventory contractors.

Harvest preparations, including sale layout, inventory, regeneration counts, marking, map work and timber sale proposal preparations were conducted on Bayou Macon, Boeuf, Ouachita, Pomme De Terre, Red River and Three Rivers WMAs. One of the very first bottomland hardwood plantations ever established was marked on Ouachita WMA. This will be one of the first large scale harvests initiated within a bottomland hardwood plantation addressing desired forest conditions identified by the LMVJV group noted above. Amendments to existing contracts on Buckhorn, Red River and Three Rivers were awarded due to various weather conditions which prohibited harvests from being completed. Another amendment was awarded on Loggy Bayou WMA because of ongoing access problems. Timber harvests to improve wildlife habitat were conducted on Buckhorn, Grassy Lake, Little River, Ouachita, Red River, Russell Sage, Sherburne, Spring Bayou and Three Rivers WMAs. Monitoring of these operations was performed by Forestry Section staff, with assistance from WMA technicians.

Coordination with several research organizations continued on Dewey Wills WMA in attempt to further establish an understanding of the oak decline the area is experiencing. Monitoring of seismic activities and assessment of tree damage occurred on Maurepas Swamp WMA. Ips beetle infestations occurred on Sicily Island Hills WMA, but only to a limited extent. Extended drought resulted in stressful conditions which the Ips beetles took advantage of this year. However, no southern pine beetle infestations/outbreaks were reported on WMAs this year.

Reforestation work was continued on other department properties with concentration on Buckhorn, Red River, Lake Ramsey, Spring Bayou, Dewey Wills and Sandy Hollow WMAs. Activities included site development and preparation, seedling or seed planting, survival plot establishment and survival checks. Approximately 245 acres were reforested during the 2006-2007 season, including 94 acres of agricultural fields, 21 acres of supplemental plantings, four acres of timber harvest areas and 126 acres of replanted areas.

Acorn and various tree seed collections were conducted to ensure a seed and seedling source for future reforestation efforts. The annual WMA mast survey aids this effort by concentrating collection efforts where the most needed types of tree species are available. The mast survey also provides an indication of the future abundance of forest wildlife species.

Monitoring of invasive species continued on the WMA system, with small treatments applied at Grassy Lake and Pomme De Terre WMAs to help control the spread of Chinese tallow trees. Other TSI work was accomplished on Tunica Hills WMA to remove some unwanted midstory species, including trifoliate orange.

GPS work on WMA trails, roads, lakes, compartments and area boundaries was accomplished to aid in the overall WMA management program. Our Geographic Information Systems (GIS) program development continued with emphasis on historical data input relative to our WMA forest management activities and addition/deletion of roads/trails that could be used for management. Standardization of symbology and map formats was focused on across WMA responsibilities, enabling easier interpretation by all future users of this historical information.

Growth Monitoring Plots (GMPs) were established on Maurepas Swamp and Bayou Pierre WMAs. These permanent plots aid in monitoring habitat conditions and affects of our forest management program on the habitat components represented on the WMAs. Salinity was also measured on Maurepas Swamp WMA to track the effects of salt water intrusion on the forest resources. Region personnel assisted in accomplishing the establishment of this year's GMPs.

The Monitoring Avian Productivity and Survival (MAPS) project continued on Sherburne WMA with seven MAPS stations being operated there, and an additional one on Pearl River WMA. Bird point counts were accomplished this year on Bayou Macon, Dewey Wills, Ouachita, Red River and Three Rivers WMAs. Forestry Section personnel provided the primary support for this project, which is expected to continue for six more years. Results from this study will aid in understanding avian use of the different silvicultural treatments applied across the WMAs, as well as avian response to hurricane damaged sites (Pearl River WMA).

Research projects and new developments continued on WMAs to foster a better understanding of benefits for the forest, wildlife and people gained through appropriate and long-term oriented forest management practices. Ongoing studies related to the rediscovery of the ivory-billed woodpecker in Arkansas continued on Red River/Three Rivers and Big Lake WMAs. The study is focusing on pileated woodpecker use of normal and modified silvicultural practices on these WMAs. Additional information on beetle colonization of these sites is being gathered to evaluate this important food source for woodpeckers, as well as to gain insight on management for stressed trees. Another reforestation study on oaks direct-seeded in-between cottonwood cuttings was established on Red River WMA. Morticulture research on Tensas National Wildlife Refuge by the Forestry Section crew in coordination with other researchers from U.S. Geological Survey (USGS), USFWS, ARTNC, ANHC and AGFC continues as well.

REGION I

Seven parishes in northwest Louisiana make up Region I: Bienville; Bossier; Caddo; Claiborne; DeSoto; Red River and Webster. Habitat consists primarily of rolling, mixed pine-hardwood and pine plantation habitat bisected by the Red River system and its associated bottomland agricultural lands. The Bayou Pierre, Bodcau, Jackson-Bienville, Loggy Bayou and Soda Lake WMAs are managed in Region I and encompass a total of 77,633 acres.

Personnel from Region I administered and managed numerous Wildlife Division programs. Programs included bobwhite quail spring and fall surveys, annual winter eagle surveys, spring dove call routes, dove banding, mast surveys, spring turkey gobble

count surveys, turkey trapping and banding and release activities. The game and non-game breeder permit program was administered as well. Personnel also collected white-tailed deer for general herd health and reproduction projects, CWD monitoring and also administered DMAP/LADT activities. Personnel served as technical wildlife consultants to numerous private landowners, municipalities and state and local government officials and agencies.

The WMAs are managed to provide diverse wildlife habitat supporting numerous game and non-game wildlife species and provide quality outdoor recreational opportunities for the public. A total of 28,328 user days were estimated for Region I WMAs. Region I personnel continued working with the Jackson-Bienville Wildlife Habitat Program, which provided more than $36,090 of contributions for the development of bobwhite quail, wild turkey and red-cockaded woodpecker habitat on Jackson-Bienville WMA. Funds were also provided to promote hunter safety and wildlife management education. Personnel also reviewed and monitored oil and gas exploration activities and interstate pipeline installations on several Region I WMAs.

REGION II

Eight parishes in northeast Louisiana comprise Region II: East Carroll; Jackson; Lincoln; Morehouse; Ouachita; Richland; Union; and West Carroll. Habitat types consist of rolling, mixed pine-hardwood forest, agricultural lands and Mississippi River bottomland forests. The Bayou Macon, Big Colewa Bayou, Floy Ward McElroy, Ouachita, Russell Sage and Union WMAs are managed by Region II.

Region II biologists conducted a wide range of activities including research and surveys involving mourning doves, Canada geese, wood ducks, wild turkey, bald eagles, bobwhite quail, shorebirds, white-tailed deer, waterfowl and other species. Additional effort was expended conducting public meetings, providing technical assistance to landowners relative to habitat management and wildlife populations, interacting with various universities as well as parish, state and federal agencies in reference to projects of mutual concern, conducting the alligator management program at the region level and numerous additional projects. Alligator harvest was conducted on two public water bodies for the first time.

Region II WMAs were managed to provide habitat and population management for deer, turkeys, squirrels, waterfowl, rabbits, doves, shorebirds and other non-game birds, furbearers and other species. Recreational opportunities were provided to thousands of hunters, fishers, campers, sightseers and other public users. Recreational user days recorded for Region II wildlife management areas totaled 30,973. Either-sex modern firearm hunts for deer attracted 3,210 hunters resulting in a harvest of 515 deer.

Additional opportunity for bucks-only gun hunting, muzzleloader, archery and youth- only hunting yielded a reported harvest of 117 additional deer. Youth deer and dove hunters on the Floy McElroy WMA had a successful season. Turkey hunting was provided on Bayou Macon and Union WMAs. A youth turkey hunt was held on Union WMA in cooperation with the Union Parish Chapter of the National Wild Turkey Federation. Ouachita and Russell Sage WMAs provided quality waterfowl hunting for several thousand persons including some who traveled from Missouri, Arkansas, South Carolina, Mississippi, Texas and other states.

WMA personnel performed a variety of development and maintenance functions such as boundary marking, road maintenance, water control structure operation, moist soil management, shorebird management, beaver and other nuisance animal control, farm contract supervision, equipment maintenance, public user data collection, vegetation control, food plot planting, reforestation and conducting managed hunts. The headquarters building on Ouachita WMA, damaged by hurricane winds in 2005, was replaced with a mobile home obtained from FEMA. Two miles of public access roads were re-surfaced with limestone rock on the Ouachita and Russell Sage WMAs.

REGION III

Six parishes in west central Louisiana make up Region III: Grant; LaSalle; Natchitoches; Rapides; Sabine; and Winn. The Dewey W. Wills, Little River, Alexander State Forest, Camp Beauregard and Sabine WMAs are managed in Region III. Catahoula Lake and Elbow Slough are additional areas of responsibility.

All of these areas are managed to provide wildlife habitat and outdoor recreational activities. Total user days for fiscal year 2006-2007 were estimated at 147,182. WMA activities increased, compared to the previous year, back to normal levels. The WMA use during fiscal year 2005-2006 was well below average due to hurricane recovery efforts.

Efforts to improve the road system on Dewey Wills and Little River WMAs continued to be hampered by lack of funding. A variety of construction projects were implemented or completed on Region III WMAs in fiscal year 2006-2007. Sabine WMA lost approximately one half of its acreage when a new landowner canceled a long-standing lease. As a result of the change in ownership the entire headquarters compound had to be relocated. Relocation and new construction were started in fiscal year 2006-2007 period with efforts continuing into the following fiscal year. Construction was initiated on an equipment shed located on the Elbow Slough WMA. Minor repairs and remodeling of the Dewey Wills WMA bunkhouse and office were conducted.

Two special projects were conducted on Catahoula Lake. Evaluation of the effectiveness of various herbicide treatments for the control of invasive woody vegetation was conducted. The information will be valuable to determine which herbicide formulations have the greatest potential for future use. A second program involved collection of samples for avian influenza monitoring. This was done in conjunction with nation wide efforts.

Routine maintenance activities on the state owned areas included road grading, culvert replacement, spot repairs, drainage improvements and beaver control. Boundary work, sign replacement, self-clearing station maintenance, vegetation control and equipment and facility upkeep were performed on all WMAs. In addition, WMA personnel conducted user interviews and operated weigh stations. Wildlife food plots were planted on Camp Beauregard, Sabine and Elbow Slough. Most WMAs have a number of wood duck boxes that require annual maintenance.

Region III procured wood duck boxes for statewide distribution. The technical staff consulted with DMAP clubs and private landowners on wildlife and habitat management issues, trapped and banded wood ducks, collected CWD samples, participated in the dove banding program, compiled data and submitted reports and handled miscellaneous problems along with routine duties.

REGION IV

Six parishes in east central Louisiana make up Region IV: Caldwell; Catahoula; Concordia; Franklin; Madison; and Tensas. Habitat types of this region are very diverse, ranging from upland mixed pine-hardwood forests in the west, to the bottomland hardwood forests along the Mississippi River. Agricultural lands generally dominate the landscape, but the alluvial floodplains of the Boeuf, Black, Red, Ouachita, Tensas and Mississippi Rivers produce a rich and varied topography that supports a bounty of resident and migratory birds and mammals.

The Region IV office, centrally located in the town of Ferriday, administers six LDWF-owned WMAs: Big Lake; Boeuf; Buckhorn; Red River; Sicily Island Hills; and Three Rivers. These WMAs provide the public with over 158,000 acres of publicly-owned land on which to hunt, fish and enjoy the natural areas of our state. The self-clearing check stations of Region IV recorded over 31,185 hunters and fishermen and 6,325 non-consumptive users (campers, backpackers, ATV riders, birdwatchers, etc.) during fiscal year 2006-2007. Estimated numbers of hunters, fishermen and non-consumptive users of Region IV WMAs exceeded 87,000.

White-tailed deer remain the most popular species of game animal hunted on Region IV WMAs, and 16,216 hunter efforts were recorded for this species. These hunter efforts produced 1,226 harvested deer, or 13.2 efforts per deer. The rich, fertile bottomland habitats routinely produce trophy class bucks each season, and Region IV is a popular destination for deer hunters coming from all parishes within the state, and from several states nationwide.

Over 5,200 small-game hunters enjoyed a squirrel and/or rabbit hunt on Region IV WMAs. The bottomland hardwoods habitat of these WMAs is a squirrel hunter's paradise, and the thick, weedy vegetation produced by LDWF's extensive reforestation program provides hundreds of acres of attractive habitat for rabbit hunting. LDWF continues to develop and manage moist soil impoundments and greentree reservoirs for waterfowl hunters in Region IV, and approximately 3,700 duck hunters took advantage of these areas. Turkey populations and turkey hunting efforts continue to expand, and over 1,700 turkey hunters harvested 135 turkeys on the WMAs.

LDWF recognizes that the future of hunting and the outdoor sports depends on the involvement of our youth. The lottery youth turkey hunt on Big Lake WMA has always been popular, and an additional youth turkey hunt was held on Sicily Island Hills WMA during the 2006-2007 turkey season. Nineteen youth turkey hunters participated in these special lottery hunts. A member of the National Wild Turkey Federation or a Region IV staff member served as a guide for each youth turkey hunter on these hunts. These experienced guides ensured a safe, quality hunt for the youngsters, and taught them turkey hunting techniques, hopefully inducing an interest in turkey hunting that will last a lifetime.

Youth deer hunts on Boeuf and Red River WMAs have been successful events in past years, and during the 2006-2007 deer season, additional youth deer hunts were conducted on Big Lake, Three Rivers and Sicily Island Hills WMAs. Participating in these hunts were 233 youth deer hunters, harvesting a total of 10 deer.

The timbered bottomlands of Region IV WMAs are excellent raccoon habitat, and the abundant raccoon population attracts raccoon hunters and high-priced raccoon dogs from several states. Region IV WMAs hosted several UKC and PKC field trial competitions and championship raccoon hunts during 2006-2007. The Louisiana State Championship raccoon hunt is regularly held on Big Lake WMA.

The "Wish I Could ATV Trail Ride," an annual one-day ATV trail riding event, was held on Boeuf WMA on Jun. 2, 2007. The event attracted 3,426 ATV riders, who entered the WMA to ride the 17-mile long trail. Not all riders completed the circuit, and several personal injuries (broken bones, burns and a snake bite) were reported. This ATV trail ride is sponsored by a charitable organization and is legislatively mandated.

Allowing private land deer hunters to harvest antlerless deer on any day of the legal hunting season has resulted in a decreased enrollment into the Region IV LADT/DMAP programs. During fiscal year 2006-2007, 220 private landowners and hunting clubs (down 10 percent from 2005-2006) enrolled 336,000 acres (down 9 percent from 2005-2006) of property into the programs. From this total acreage deer hunters harvested 3,698 deer (30 percent antlered bucks and 70 percent antlerless deer). This harvest ratio has remained relatively stable over the years, and it reflects the quality deer management guidelines that LDWF advocates. As part of the DMAP program, Region IV biologists provide private landowners with biological habitat surveys and harvest recommendations.

Most people associate Louisiana alligator hunting with the traditional marsh and swamp habitats located in the state's coastal zone. However, alligator hunting is very popular in northeastern Louisiana. During 2006, the Region IV alligator program issued 520 tags to alligator hunters (345 tags to private land hunters and 175 to public lakes hunters). A total of 87 hunters used 412 (79 percent) tags. Alligator hunting in the coastal zone may be largely seen as a commercial activity, but in northeastern Louisiana it is commonly enjoyed as a social event. Entire families submit applications for the limited number of alligator tags issued in the public lakes lottery. Alligator hide prices have dramatically increased in the last few years, and Region IV alligator hunters continue to take trophy-sized 12-13 foot gators.

REGION V

Nine parishes in southwest Louisiana make up Region V: Acadia; Allen; Beauregard; Calcasieu; Cameron; Evangeline; Jefferson Davis; Vermilion; and Vernon. Habitat ranges from extensive coastal marshes, to prairies and vast agricultural areas, to hardwood bottoms, to rolling hills of pine plantations and mixed pine-hardwoods. The Clear Creek, Fort Polk, Marsh Bayou, Peason Ridge, Sabine Island, Walnut Hill and West Bay WMAs are managed in Region V and encompass a total of 260,000 acres.

Region personnel administered a variety of Wildlife Division activities. These include environmental assessments, technical assistance, research, planning, development, management and

alligator and nuisance animal programs. Technical advice is provided to the public, federal, state and national wildlife refuges and local agencies. Region personnel assist 177 private deer hunting clubs encompassing 360,007 acres with LDWF's DMAP and LADT. The region personnel participated in a nationwide dove banding program by trapping and banding 25 doves. Special public dove hunts were held on two areas totaling 1,000 acres of land LDWF leases in September, with 436 hunters harvesting 483 doves. Region V handled a large number of resident alligator hunting applications issuing 93 licenses, 813 tags and 16 non-resident alligator hunting license, and also provided the shipping requirements of alligator hides.

The WMAs are managed for a variety of fish and wildlife species and provide outdoor recreational opportunities. These areas are readily accessible and are very popular with the public. Along with public hunting and fishing opportunities, these areas provide many types of non-consumptive activities. A total of 31,726 people (253,808 hours of recreation) used these areas from November 2006-October 2007.

Managed deer hunts on the four largest WMAs within the region resulted in 23,508 hunting efforts and harvesting 1,008 deer. Two areas offer special deer seasons for youth and handicapped hunters. Over 1,815 turkey hunters harvested 74 gobblers from three WMAs. Special youth turkey hunting seasons were established on two areas which were great successes. Four special Physically Challenged Wheelchair Confined deer stands were constructed and placed on Clear Creek WMA.

The WMAs are leased free of charge to LDWF for public use from private landowners (Forest Capital Partners LLC, Roy O. Martin, U.S. Army, U.S. Forest Service, Forest Investments, Calcasieu School Board, Molpus and the State of Louisiana). To continue these lease areas, region personnel are required to meet and negotiate annual agreements with the landowners. The leases help the landowners properly manage their properties for wildlife and public recreation.

LDWF co-partnered with Cleco Power and National Wild Turkey Federation to establish turkey food plots on service rights-of-way and abandoned roads within Clear Creek and West Bay WMAs. LDWF also co-partnered with U.S. Army and U.S. Forest to establish turkey and quail food plots on Fort Polk WMA.

REGION VI

Thirteen parishes in south central Louisiana make up Region VI: Avoyelles; Assumption; most of Iberville; Iberia; Lafayette; Pointe Coupee; St. Landry; St. Martin; St. Mary; Terrebonne; West Baton Rouge; and portions of West Feliciana and Ascension. Habitat types range from mixed pine-hardwoods, to backwater bottomland hardwoods interspersed with agricultural lands, and cypress-tupelo swamps, to open-water areas. The Acadiana Conservation Corridor, Attakapas, Elm Hall, Grassy Lake, Pomme de Terre, Sherburne, Thistlethwaite and Spring Bayou WMAs are managed within Region VI and encompass a total of 120,077 acres. One federal refuge, a U.S. Army Corps of Engineers (USACE) property, is also managed within Region VI.

Region VI personnel administer and manage a variety of wildlife oriented activities. Region personnel work in conjunction and provide technical advice to many different agencies, including other state agencies, USFWS, USACE, Department of Natural Resources (DNR), Department of Environmental Quality (DEQ), Department of Agriculture and local parish entities. Region personnel administer environmental assessments, technical assistance, research, development/management and alligator and nuisance animal programs. Personnel assist with projects ongoing in the region, such as deer, woodcock, turkey, black bear and non-game research projects. Region biologists worked with 173 DMAP clubs encompassing over 365,765 acres on which approximately 4,400 deer were harvested. In addition to DMAP, LADT tags were issued to 112 cooperators, involving 133,924 acres on which approximately 1,200 deer were harvested.

The WMAs are maintained and managed to provide outdoor activity opportunities for all user groups, including both consumptive and non-consumptive. WMA personnel performed a variety of development and maintenance functions such as boundary marking, building maintenance, road maintenance, water control structure operation, moist soil management, beaver and other nuisance animal control, farm contract supervision, equipment maintenance, public user data collection, vegetation control, food plot planting, reforestation and conducting managed hunts. Recreational user days recorded on Region VI WMAs totaled 62,899 by hunters, fishers, campers, sightseers, bird-watchers and other public users. Managed deer hunts were held on these areas, with over 7,600 user-days recorded, with 591 deer harvested on these hunts. In addition to the managed (either-sex gun) hunts, bucks only, youth/handicapped, archery and muzzleloader hunts also took place, where an additional 450 deer were harvested. Turkey hunts were held on four WMAs, where 120 turkeys were harvested by an estimated 852 users. Dove fields are maintained, along with many acres of food plots. Biologists and technicians maintain and monitor over 800 wood duck boxes, conduct pre-season banding, collect samples for Chronic Wasting Disease, Avian Bird Flu and other disease testing and respond to numerous nuisance animal complaints, illegally held deer and sick deer complaints.

Youth Lottery deer, duck and turkey hunts were held in Region VI, with great success on these hunts. Physically Challenged Wheelchair-Bound Waterfowl and Deer hunts were held in Region VI, with much participation from this group of hunters.

Improvements to Region VI WMAs included the addition of two FEMA mobile homes for housing research students and other personnel, and limestone and culverts placed on roads, trails and parking areas as needed on all region WMAs. Two Physically Challenged Deer Box Stands and a Waterfowl Blind were built for use by this group of hunters. A 1,700-foot boardwalk was built for assess to the PCHP Wheelchair Hunters Waterfowl Blind, which can also be used by other user groups such as, birdwatchers, photographers, crawfishers, etc.

REGION VII

Eighteen parishes in southeast Louisiana make up Region VII: most or all of Ascension; East Baton Rouge; East Feliciana; Livingston; Orleans; Jefferson; St. Helena; Tangipahoa; Washington; St. Tammany; St. Bernard; St. James; St. John; Plaquemines; St. Charles; Lafourche; West Feliciana; and a portion of Iberville. Habitat types range from marshes and swamps, to rugged loess bluff uplands. The Pearl River, Joyce, Manchac, Sandy Hollow, Ben's Creek, Hutchinson Creek, Tunica

Hills, Maurepas Swamp, Tangipahoa Parish School Board and Lake Ramsey WMAs are managed in Region VII and encompass a total of 147,056 acres.

The WMAs are open for public use such as hunting, fishing, bird watching, sight seeing, boating, hiking, horseback riding, photography and berry picking, as well as many other outdoor recreational activities. Over 72,000 user days were recorded on the WMAs during fiscal year 2006-2007. An alligator season was allowed on four WMAs. Region personnel maintained WMA boundaries, buildings, equipment, roads and trails. Managed hunts were conducted on several WMAs.

Fiscal year 2006-2007 saw continued post-hurricane Katrina recovery progress. With the assistance of the Fur and Refuge and Enforcement divisions several damaged and illegal camps were removed from the Pearl River WMA. Working with movers and spray rigs donated by the National Wild Turkey Federation, region personnel were able to control encroaching vegetation on 25 miles of trails and 20 acres of food plots on the Pearl River WMA. In a continued effort to reduce storm related fuels and enhance wildlife habitat, 900 acres of marsh at Pearl River WMA and 2000 acres of longleaf pine habitat on Sandy Hollow WMA were prescribe burned. An additional 100 acres of longleaf pine plantations were burned on Ben's Creek WMA.

Sandy Hollow WMA was intensely managed for mourning dove and bobwhite quail. Over 15 miles of bobwhite quail field trial courses, seven dove fields, 10 acres of food plots and 15 food strips were prepared. Approximately 65 food plots were planted and monitored on WMAs.

Region biologists and technicians worked with 151 DMAP cooperators on 293,195 acres and 35 LADT cooperators on 31,349 acres, maintained 177 wood duck boxes, participated in the statewide mourning dove banding program, responded to numerous deer and nuisance animal complaints, provided technical assistance to the public, conducted public meetings and collected white-tailed deer brain and lymph node samples for Chronic Wasting Disease testing. Duck trapping operations were conducted with 627 wood ducks and 132 black-bellied whistling ducks being banded. Biologists captured 13 wild turkey gobblers on Tunica Hills and neighboring private lands as part of the statewide gobbler mortality study. Additional turkey work was completed on Ben's Creek WMA. In cooperation with Weyerhaeuser Company, the National Wild Turkey Federation, and Entergy, 15 acres of overgrown powerline rights-of-way were cleared and planted for wildlife. Working with the deer program manager, region biologists continued efforts to collect deer reproductive data to better pinpoint breeding peaks within the region. Biologists also assisted LSU researchers in a deer telemetry study.

EDUCATION

Conservation education is a vital part of the Louisiana Department of Wildlife and Fisheries' mission. The Education Section, within the Wildlife Division focused on three main areas: Hunter Education; Aquatic Education; and General Wildlife Education.

Hunter Education

LDWF's Hunter Education Program provided training and certification in hunter education, bowhunter education and muzzleloader education as well as assisting with other related educational programs.

Administration

Certification cards for hunter, bowhunter and muzzleloader education student and instructor courses were provided as needed for persons completing these courses. Hard copies were filed as well as computer based records for courses administered.

One education staff position was reopened in the Region IV Ferriday office. This position had been closed in 1990 which originally served a seven-parish area.

In an effort to assist the public with obtaining duplicate hunter education credentials, LDWF has included a page on its web site which allows a user to submit information which will produce a temporary hunter education card that can be printed, and at the same time order a permanent card electronically. The system has worked well thus far and will be upgraded in the future to include bowhunter education credentials.

The education program manager and hunter education supervisor attended the Region 4 hunter education administrators meeting in Orlando, Fl. in January 2007. One major topic of discussion was the upgrading of the Region IV alternative study hunter education course. Dr. Jim Neale, who hosts the course, presented a proposal to upgrade both the on-line and CD-ROM versions of the course. The cost would be shared by the states in Region 4. Louisiana submitted payment for its share of the work.

The LDWF education section hosted the 2007 International Hunter Education Association Conference in Baton Rouge, La. in May 2007. The theme of the conference was "Teaching, Reaching and Educating Students with Disabilities."

Student Certification

A total of 520 hunter education courses were provided to the general public statewide resulting in the graduation of 17,699 students. Louisiana also provides bowhunter education for persons hunting on national wildlife refuges and out of state where required. A total of 54 bowhunter education student courses were taught with 1,019 people being certified. The alternative study method for taking hunter education courses continues to be offered to the public in Louisiana. Out of the 17,699 students certified in 520 hunter education courses, 1,027 of these students in 55 courses accounted for alternative study method. In addition, two muzzleloading courses were taught with 26 people in attendance. Certification was provided through the National Muzzleloading Rife Association.

Instructor Training

A total of 156 new volunteer hunter education instructors were trained and provided with credentials to teach hunter education in the State of Louisiana through 16 instructor courses. In addition, three bowhunter education instructor courses resulted in 27 persons being certified to teach bowhunter education. One statewide workshop was planned and carried out at Camp Grant Walker in Pollock, La. with 115 instructors in attendance. Instructors received presentations on black bear management, avian flu, update on the new tagging system for white-tailed deer and a presentation on trapping. In February 2007, the hunter

education section conducted a wild turkey hunting safety workshop in which volunteer instructors were given information on safe turkey hunting basics. A total of 13 volunteer hunter education instructors were in attendance. Volunteers contributed 25,466 hours of in-kind service time for fiscal year 2006-2007.

Shooting Range/Training Facilities
LDWF continues to staff and operate two education centers and four public shooting ranges.

Bodcau Shooting Range - Located in Webster Parish on Bodcau WMA, this shooting facility is currently being upgraded with monies provided by the Bossier Parish Police Jury. Funding provided has lead to the extension of the existing rifle range, addition of a clay target shooting station and archery range, a new fence between the parking lot and range and a building that will serve as headquarters and classroom. These improvements will be completed next fiscal year. A water line has been installed by LDWF to provide water to the range. The range is open to the public five days a week and is staffed by one technician.

Woodworth Education Center - Located in Rapides Parish, this facility contains both classroom and sleeping quarters and a public shooting range. Rifle and shotgun shooting opportunities are offered to the public five days a week. The center is staffed by one biologist, two technicians and one student worker. Volunteer help to operate the range is provided by the Bayou State Muzzleloaders Association. The main classroom and bunkhouse floor has been repaired and replaced with hardwood flooring. Repeated problems had been experienced due to persistent wet conditions underneath the floor. A drainage system was installed to remove moisture that accumulated beneath the floor causing damage. Other repair projects include fixing the overhead cover on the rifle range, which was damaged from a falling tree, and repairing damage caused by a lightning strike to clay target throwers on the shotgun range. Also, a PA system was installed on the rifle range to provide adequate communications when operating the range while open to the general public

Sherburne Shooting Range - Located in Pointe Coupee Parish, the Sherburne range consist of two skeet fields, one archery range, one handgun range and one rifle range. It is operated by one technician and is available to the public seven days per week. One skeet range (Range 2) has been demolished and rebuilt. Range 1 is pending reconstruction. Plans are being submitted to the Division of Administration for biding procedures.

Waddill Outdoor Refuge - The Waddill Outdoor Refuge in East Baton Rouge Parish provides a needed outdoor education environment in an urban setting. A classroom, solar powered shotgun range and outdoor setting provide an ideal opportunity to teach hunter education. The refuge is staffed by one biologist and one technician.

Honey Island Shooting Range - The Honey Island Shooting range is located on Pearl River WMA in St. Tammany Parish. The range is managed under an MOA with the Southeast Louisiana Firearms Safety, Inc. This group is a non-profit organization that completely handles all aspects of operating the range for public use. Shotgun, rifle and handgun shooting opportunities are available to the public. Volunteer hours accrued from the Woodworth and Pearl River Ranges totaled 3712.

Hunting Incidents
A total of six hunting accidents were documented for fiscal year 2006-2007. Five were class A incidents with two being fatal. One incident was a class B incident which resulted in a person having fallen from a tree stand while bowhunting. Results were compiled by type and category and entered into the National Hunter Education Incident Database and made available to volunteer instructors.

Aquatic Education

The education section of the LDWF introduces people to the sport of fishing and promotes awareness of the aquatic resources in the state through both public programs and teacher training.

Administration
Volunteer hours from field activities were documented and stored electronically as well as hard copies filed. Standard equipment, such as fishing tackle to be used for fishing programs, were purchased as needed. One pontoon boat was purchased to use for various aquatic education activities. In addition, aquatic staff participated in following conferences: National Marine Educators Assoc.; Southern Assoc. of Marine Educators; Louisiana Science Teachers Assoc.; Louisiana Environmental Educator's Symposium; American Fisheries Society Conference; Becoming An Outdoors Women Coordinators Conference; and Project WILD Conference.

Curriculum and Training
Clinics: Aquatic education clinics were held statewide that resulted in 6,779 volunteer hours. Subjects covered in aquatic education clinics include outdoor ethics, fish identification, tackle selection and fishing techniques. Participants also are involved in actual hands on fishing.

Workbooks: Three publications, "Fishing For Fun," "Let's Go Fishing" and "Finnie The Fingerling," were distributed to teachers in the school system for classroom use. A total of 5,472, 9,160 and 4,643 workbooks were used respectively. These publications promote an appreciation of aquatic recourses and their habitat.

Teacher Workshops: Teacher workshops are conducted statewide in an effort to provide training in aquatic education that can be brought back to the classroom. The following workshops were conducted:

- *Project Wild - Aquatic*: Teachers are provided with guidance and materials to conduct classroom activities to make students aware of aquatic resources and their habitat. A total of 203 teachers were trained in 13 workshops on the use of Project Aquatic Wild materials.
- *Costal Wetland Workshops*: Costal Wetlands Workshops were held to train teachers on the subject wetlands ecology in costal habitats. "Wonder of Wetlands" manuals, as well as other resources, were issued to enable teachers to bring this knowledge back into the classroom. A total of 16 workshops were held statewide which resulted in 253 teachers being trained.

Special Programs
The aquatic education section assisted in camps that introduce people to outdoor aquatic recreation and ethics.

Marsh Maneuvers: This program is conducted in conjunction with the LSU Extension Service. Four camps were held at Rockefeller Refuge which were attended by students enrolled in 4-H. Students are given an opportunity to explore Louisiana's costal wetlands at the LDWF Rockefeller Refuge and study the problems that plague our fragile costal aquatic environment.

Hatchery Education

Educational programs were held at the Booker Fowler hatchery in an effort to demonstrate the techniques used to raise fish in an artificial environment. Tours of the hatchery were conducted for school students and the general public as well. Education materials and special presentations were made available through the visitors' center. There were approximately 657 students educated through the hatchery aquatic education program during fiscal year 2006-2007.

Native Fish in the Classroom: This unique program allowed students to witness the miracle of fish developing going from an egg to the fingerling stage in a classroom environment. Students maintain a nursery aquarium and are given paddlefish eggs from LDWF. Fingerlings raised are returned to the wild. A total of five new teachers were trained to conduct this program. Twenty schools are now participating in the program.

"Finnie the Fingerling": This workbook was developed to provide guidance on the inner workings of how the day to day operations of a fish hatchery are conducted. Readers are taken on a guided tour by "Finny the Fingerling" of the Booker Fowler fish hatchery. Information is provided on how fish are spawned and released into the wild.

General Wildlife Education

National Hunting & Fishing Day

The general public was shown appreciation of its support by being invited to join LDWF in an open house atmosphere that involves hands on activities and a closer look at LDWF sponsored programs. The Education Section provided training for the public in the safe use of shooting equipment. Four LDWF sponsored events were held at Bodcau Shooting Range, Monroe Office Facility, Woodworth Education Center and Waddill Outdoor Refuge. A total of 7,200 individuals visited these locations and enjoyed hands on outdoor activities.

Becoming and Outdoors Woman (BOW)

BOW continues be a popular program with women interested in learning more about outdoor recreational sports. Hunter education staff members conducted activities which taught the safe handling of equipment for hunting and recreational shooting. One statewide event was conducted in April 2007 with 125 participants in attendance.

Families Understanding Nature (F.U.N.) Camps

F.U.N. Camps provide both fun and education to a parent and youth through a weekend of staff lead outdoor activities. Family members are introduced to the safe use of firearms and other recreational shooting equipment. Two events were held. One father/child in May 2007 and one mother/child in October 2007.

Archery in the Schools

On Aug. 5-7, 2006, NASP-LOUISIANA held the first Basic Archery Instructor Trainer (BAIT) and Basic Archery Instructor Trainer Specialist (BAIT Specialist) workshops at Poland Jr. High in Rapides Parish. The lead instructor for the workshop was Roy Grimes, Executive Director for the NASP. The BAIT candidates participated in a 24-hour training session to receive BAIT certification, and were taught the BAIT course as part of their certification. Seven persons were trained as Basic Archery Instructor Trainers and two as BAIT Specialists.

ROCKEFELLER WILDLIFE REFUGE

Rockefeller Wildlife Refuge, located in coastal Cameron and Vermilion Parishes, was created in 1920 through a land donation developed by E.A. McIlhenny. He persuaded the Rockefeller Foundation to deed the area to Louisiana for preservation and protection of migratory birds. The area is intensively managed for waterfowl, and is one of the most important wildlife areas in the United States. It serves as an outdoor laboratory for one of the nation's largest wetland ecosystems.

The Rockefeller Foundation modified the deed in 1944, giving reversionary interest in the property to the U.S. Fish and Wildlife Service (USFWS) if the state fails to honor the terms of the deed. Changes to the deed, one of which requires periodic reviews of refuge programs, have been made by mutual consent between USFWS and the Louisiana Department of Wildlife and Fisheries (LDWF).

The most recent review was June 1-2, 2005. A findings report was received in November 2005, two months following Hurricane Rita. It stated that staff and upper level management associated with the refuge were doing an exemplary job of managing the land base in accordance with the Deed of Donation.

During fiscal year 2006-2007, recovery following Hurricane Rita continued as did most management and research programs. It is estimated that the hurricane caused approximately $16 million in damage. All of the management unit levees and water control structures were damaged to varying degrees. Temporary emergency repairs were made utilizing LDWF equipment to prohibit saline Gulf waters from impacting LDWF and private lands adjacent to the refuge. Likewise, the office, general quarters dormitory and several residences were temporarily repaired and occupied. It was June 2006, nine months after the storm, before electric service was restored, and natural gas for heat and food preparation wasn't reconnected until December 26, 2006.

To aid in orderly recovery, the administration, in consultation with an architectural firm and a master plan, elected to proceed in phases. *Phase 1* reconstruction was initiated June 11, 2007 and included rebuilding of the workshop, equipment, boat storage and materials storage buildings. Initial emphasis was placed on the equipment building since it had less damage and could accommodate maintenance personnel during the winter of 2007-2008 while reconstruction continued on the workshop. Completion of the $1.8 million project is scheduled for February 2008.

Marsh Management, Restoration, Habitat Enhancement and Mineral Management

Rockefeller's staff maintains over 200 miles of levees and 40 water control structures which result in conservation of approximately 76,000 refuge wetland acres, and also enhances water management capability of 100,000 private sector acres within the Mermentau River Basin. Objectives of maintenance and manipulation of the refuge's system of levees and water control structures vary somewhat by management unit, but generally goals are to maintain marsh health, provide conditions favorable for production of waterfowl food plants and incorporate multi-species management when possible.

Water control structure and levee repairs continued during fiscal year 2006-2007. Portions of the south Unit 15 levees, Dyson Plug, Dyson structure and north Rollover structure were repaired. Cop-Cop Bayou structure and Murphy Road levee were repaired which enhanced approximately 5,000 private wetland acres north of Rockefeller Refuge.

Seven thousand feet of canal berm were restored and planted with oystergrass along the Headquarters Canal south of Rockefeller Refuge headquarters. America's Wetland Conservation Corps volunteers planted 4,000 feet of the canal in May 2007. This action will reduce levee erosion and provide important fisheries habitat along the canal.

The four-pipe stop-log flap-gate structure in the southeast corner of Unit 4 was damaged by a barge that broke loose from the Hilcorp Energy facility. The structure was replaced by the oil company during fiscal year 2006-2007. Approximately 6,771 feet of California bullwhip was planted on terraces in Unit 4 through a cooperative effort between the Louisiana Department of Agriculture and Forestry and Rockefeller Refuge. These projects enhanced 5,680 wetland acres.

At the conclusion of a drilling venture in Unit 5 by Petroquest, a sheetpile plug was constructed to close the exploration canal to prevent saline Gulf water from entering the unit. On October 16, 2006 a high tide breached the dam, which will have to be repaired to reestablish water level and salinity control in the 4,900 acre Unit 5.

Rockefeller Refuge staff worked with Ducks Unlimited to secure a $470,000 North American Wetlands Conservation Act (NAWCA) grant to replace two water control structures at Price/Tolan Lake. The three- and four-pipe structures will be replaced to reestablish historic hydrology to the area which will enhance approximately 10,000 private and 7,500 refuge wetland acres.

Louisiana Department of Natural Resources, in conjunction with Providence Engineering, funded a $1.5 million project to study beneficial use hurricane debris and dredge material to rehabilitate abandoned oilfield canals. Hurricane debris was hauled to a canal site on the refuge along the east side of East End Locks Road and mixed with hydraulic dredge material from the Humble Canal. Part of the study is to evaluate various mixture ratios of debris to soil levels. Ratios examined were 60/40, 50/50 and 30/70 debris to soil respectively.

ORA Technologies, LLC initiated a project in June 2007 to evaluate stabilization of canal banks with specially designed structures that promote the creation of artificial oyster reefs. Small oysters attached to the structures shortly after installation. A similar version of this technology may be tested for Gulf of Mexico shoreline stabilization along the refuge.

Waterfowl Program

Rockefeller and New Iberia biological staff conducted five waterfowl surveys on three coastal refuges, one waterfowl preserve and four wildlife management areas (WMAs) which included Rockefeller Refuge, State Wildlife Refuge, Marsh Island Refuge, White Lake Wetlands Conservation Area, Atchafalaya Delta WMA, Point-aux-Chenes WMA, Salvador WMA and Pass-a-Loutre WMA.

In 1994 Rockefeller Refuge began a long term mottled duck banding program to monitor annual survival rates and analyze distribution along the Gulf Coast between Texas and Louisiana. The banding effort is now a cooperative endeavor with Texas and Louisiana and involves many state and federal biologist, technicians and student workers. Some of the early analysis of data has shown high variability in survival rates with little mortality being attributed to hunting. Fur and Refuge Division biologists completed the 12th year of this program during fiscal year 2006-2007. Department personnel had a record year banding 3,973 mottled ducks this year and 28,511 from 1994-2007.

Rockefeller staff assisted LSU and Ducks Unlimited with two pilot telemetry projects. In December 2006, 16 female gadwall were captured, fitted with satellite transmitters and released at Rockefeller. This pilot study was designed to evaluate transmitters for a project entitled “Regional and Long-Range Movements of Female Gadwalls along the Gulf Coast.” In September 2006, 17 mottled duck females were captured, fitted with internal VHF transmitters and released on Rockefeller Refuge. This pilot study was designed to evaluate transmitter size and setup for a project designed to look at movements and habitat use of Western Gulf Coast mottled ducks.

Rockefeller staff assisted Ducks Unlimited with a pilot project entitled “Occurrence of Mottled Duck Nests on Constructed Marsh Terraces in Louisiana and Texas.” Staff found 16 active and nine inactive nests on four of five different study areas. This project was to investigate the possibility that mottled ducks may nest on constructed terraces, and may lead to future research interest.

Alligator Removal and Fur Trapping

Nuisance alligator trapping did not occur at Rockefeller Refuge in September 2006 due to severe drought conditions after Hurricane Rita. No alligator nests were observed on the refuge during the annual 2006 June/July aerial survey, and the harvest was delayed until the 2007 season.

Likewise, fur trapping did not occur on Rockefeller Refuge during fiscal year 2006-2007 due to the low numbers of furbearers present on the refuge after Hurricane Rita. The 10-foot plus storm surge over the marsh followed by a prolonged drought significantly reduced furbearers in the region.

Watchable Wildlife Program

Eleven helicopter survey days totaling 63.2 hours of flight time were used to monitor Louisiana’s nesting bald eagles. During fiscal year 2006-2007, 424 young were produced from 336 active nests. The number of young produced and average young/successful nest has remained constant the last two years. The average number of young/active nest declined slightly from 1.54 to 1.26 in 2005-2006 and 2006-2007, respectively. The number of active nests is increasing so a slight decline in the number of young/active nest could be expected. Additional flight time was funded this year to obtain both activity and productivity for all nests after Hurricanes Katrina and Rita. Hurricanes did not significantly impact Louisiana nesting bald eagles. The bald eagle

population is healthy with an 18.3 percent increase in the number of active nests from 2005-2006 to 2006-2007.

Fourteen brown pelican nesting colonies were active and produced young during fiscal year 2005-2006 and 15 colonies were active during fiscal year 2006-2007. Brown pelicans are well on their way to recovery after Hurricanes Katrina and Rita. Louisiana's brown pelican population was estimated to range from 12,000 to 85,000 birds prior to 1930. A total of approximately 66,940 young were produced in the three years from 2005-2007. A good nesting season in 2008 will produce enough birds over a four-year period (2005-2008) to exceed the high population estimate of 85,000 prior to 1930. The brown pelican population is maintaining sustained growth at this time. LDWF will continue intensive monitoring throughout the nesting cycle to detect population changes. As a result of sustained population growth in Louisiana the brown pelican is scheduled to be removed from the endangered species list in 2008.

In fiscal year 2006-2007, 15,625 fledglings were produced west of the Mississippi River while 8,460 fledglings were produced east of the Mississippi River. Coast-wide brown pelican production reached an all time high of 39,021 fledglings in 2004 with 17,121 produced east of the Mississippi River. Production declined to 1,211 fledglings east of the Mississippi River in 2005 as a result of destruction caused by Hurricanes Katrina and Rita. The majority of 2005 young (23,992) west of the Mississippi River survived since they fledged before the storms hit the Louisiana coast. Generally, brown pelicans nest two to three weeks earlier west of the Mississippi River than birds east of the Mississippi River. Production decreased in 2006 to 17,566 fledglings, but increased to 24,085 fledglings in 2007. In the 15-year period between 1993 and 2007 an average of 22,688 brown pelicans have been produced per year in Louisiana.

A conservation milestone was reached in 2003 when brown pelicans began nesting on Rabbit Island in Calcasieu Lake. Brown Pelicans expanded naturally outside their historic range. During fiscal year 2006-2007 eight nests produced 15 fledglings. LDWF is working on a plan to create additional nesting colony habitat in Calcasieu Lake to promote the expansion of the brown pelican population in Southwest Louisiana.

A new translocation project was initiated in fiscal year 2006-2007. One hundred twelve young brown pelicans were translocated from Raccoon Island to Whiskey Island. The University of Louisiana at Lafayette, LDWF and USFWS are collaborating to establish new nesting colonies along the Louisiana coast. The team banded 500 brown pelicans to track movements along the Gulf of Mexico and collected blood samples to determine genetic origin of our birds. The translocated birds should begin nesting in 2009.

Recreational Use

Recreational use at Rockefeller Refuge has rebounded significantly since fiscal year 2005-2060. Many factors have contributed to the resurgence of recreational use, but none more than the general recovery of the local communities. With basic utilities and public services restored, local stores and businesses needed to support recreational users began to reopen. Rockefeller Refuge's recreational use experienced a significant increase in April 2007 when Price Lake Road was reopened to the public. With 11,000 tons of new limestone and a rebuilt fishing pier, Price Lake Road once again became one of the most popular sites on the refuge. Data collected from vehicle counting devices reveal that Rockefeller Refuge experienced over 80,500 man-days of recreational use from July 2006 - June 2007. Of this, approximately 78,000 man-days were used for consumptive use, and about 2,500 were for non-consumptive activities.

Estuarine Fisheries Program

Rockefeller Refuge staff's ability to manage estuarine organism populations remain severely limited due to the destruction caused by Hurricane Rita. The situation will continue until repairs to critical levees and water control structures are completed and functioning properly. Though the primary goal of the division is habitat management/restoration, personnel are able to strategically allow ingress and egress of organisms into the Superior Canal complex and several other management units when habitat integrity will not be compromised.

Rockefeller Refuge continued its fisheries monitoring program in conjunction with various habitat management/restoration strategies. Rockefeller Refuge staff resumed efforts in stocking Florida-strain largemouth bass to supplement bass populations on the refuge. Approximately 107,000 fingerlings were released in May 2007. In June 2007, staff received an additional 37,000 fingerlings from Inland Fisheries' Booker Fowler Hatchery to aid in restocking efforts.

Technical Assistance/Outreach/Education

Refuge personnel continued its outreach program. A booth was manned at the Cameron Parish Career Day in Grand Lake. Personnel hosted several events to educate elementary, high school and college classes in wildlife and wetlands sciences.

Despite the catastrophic damage resulting from Hurricane Rita, Rockefeller Refuge again hosted the annual 4-H Marsh Maneuvers Camp. Fifty-five students from 15 Louisiana parishes participated in this month long camp which is designed to educate high school students in the importance of coastal marsh erosion, restoration, conservation and ecology.

The refuge also hosted an America's Wetland Conservation Media Group event and a ceremony to celebrate the completion of several CWPPRA Projects in Region 4.

Research and Publications

Cooperative studies conducted at Rockefeller Refuge concerning wildlife and wetlands ecology during fiscal year 2006-2007 include:

- Effects of earthen terraces on submerged aquatic vegetation, fisheries and waterbird utilization (LSU)
- Evaluating Latitudinal Origin of Wintering Rails in Southwest Louisiana (LSU)
- Perkins, Marie, S. King, and J. Linscombe: Effectiveness of capture techniques for rails in southern Louisiana and Texas; Journal of Field Ornithology (In Press)

FURBEARER MANAGEMENT

Monitoring Fur Harvest

The 2006-2007 furbearer harvest was monitored by compiling distribution and total harvest data. Each year fur buyers and dealers are required to submit reports providing information on pelts purchased by species and parish of harvest. Annual audits of all fur dealers provide a record of total pelts by species shipped from Louisiana. River otter and bobcat possession tags provide data on timing and location of all bobcat and otter harvested in the state. These tags are necessary to insure that Louisiana otter and bobcat are tagged with federal export tags (a federal requirement for out-of-country shipment).

Records indicate a total of 1,690 trapping licenses were sold during the 2006-2007 trapping season. Of these, 1,661 were adult residential licenses, 11 were adult non-residential trapping licenses and 18 were youth residential licenses. These figures show a slight increase in trapping licenses sold last season when compared to the previous season (1,504).

A total of 394,271 animals harvested (all species) was up 200,271 from the previous season's total of 194,000. The total value of the 2006-2007 fur harvest to the state's trappers was estimated at $2,003,051.95. This total value was up $829,437.03 from the previous season. This increase in total animals harvested and the value can be attributed to the increase in the incentive payment form the Coastwide Nutria Control Program from $4 to $5.

The nutria harvest (375,683) increased by 206,840 from the previous season's total of 168,843. The average nutria pelt price paid to trappers during this past season was $1.75; this was a $0.05 increase in the amount paid the previous year. However, an additional $5 was paid for all nutria taken during the Coastwide Nutria Control Program by registered participants.

Fur and Alligator Advisory Council (FAAC)

During fiscal year 2006-2007, the FAAC continued to work towards its two major goals. The first goal of educating the public concerning the role of wildlife utilization in conservation is directly associated with the second goal of market enhancement for fur and alligator skins and products. FAAC has come to the increased realization that without education of the public to counter misleading animal rights propaganda, enhancement of markets cannot be accomplished in the long-term. The educational module paired with the educational CDs continued to be a great success. Requests for sample skins and programs have been tremendous. Staff and volunteers presented at numerous schools and libraries during fiscal year 2006-2007. The FAAC continued with a strong presence at large public events such as the Louisiana State Fair. Hundreds of school children visited the FAAC booth at the State Fair daily for its three-week duration. The Web site carried the educational story to a much broader audience of teachers and students. The success of our education program will likely determine the future of markets.

During fiscal year 2006-2007, FAAC continued to concentrate efforts on the U.S. alligator market. The Retailer Education Program was well received by retailers with requests for more educational programs for their sales staff. This program allows information to be distributed about the sustainable use of alligators, the "marsh to market" story and the difference between alligator and caiman leather.

FAAC also concentrated on solving problems associated with alligators and crocodilians in general through Convention on International Trade (CITES) and U.S. Fish and Wildlife Service (USFWS) programs and regulations. The 14th CITES Treaty meeting was held in The Hauge, Netherlands in June, 2007. Considerable discussion was undertaken during this meeting to find ways to further standardize and expedite the trade in legal crocodilian products. Progress continues to be steady.

FAAC has struggled to find new strong and stable markets for Louisiana fur. The international fur market continues to be very dynamic and many internal and external factors affecting buying trends and markets are still present. Mainland China still holds the brightest future for new and expanded markets and bought more Louisiana products this year. China is catching up with its knowledge base, and dealers are eager to learn about Louisiana furs. The FAAC attended fur shows in mainland China and Hong Kong during fiscal year 2006-2007. The Beijing Fur Show is bigger every year and buyers are very interested in Louisiana products. Louisiana fur dealers were able to sell furs based on contacts made at this show. FAAC has followed a marketing plan of working in several countries that are gateways to China.

Research

The Fur and Marsh Management Section continued research through grants and contracts during this period. In fiscal year 2006-2007 the section administered several continuing contracts concerning vegetative damage caused by nutria and control techniques. A three-year grant was awarded in fiscal year 2002-2003 from the Habitat Section, National Marine Fisheries Service (NMFS) and National Oceanic and Atmospheric Administration (NOAA). The contractors for fiscal year 2006-2007 included LSU Coastal Studies Institute and the LSU Agriculture Center. This continuing research included studies to (1) obtain a better understanding of vegetative damage and why some damaged areas recover and other areas remain damaged or even convert to open water, and (2) select plant species and techniques to be used for large scale vegetative restoration of wetlands damaged by nutria. Results indicated that restoration of the large areas of degraded freshwater marsh that occur in coastal Louisiana will require significant production of maiden cane plant materials or suitable alternative mat-forming plants. This research concluded in December 2006.

The department conducted a third year of the Bobcat, Fox and Coyote Hunter Survey by taking a random sample (6 percent) of Louisiana big game license hunters from the 2005-2006 season. This information is used to estimate trends over time as to the number of bobcats within the state of Louisiana and the distribution of this species. This harvest data is needed to best manage the season.

The department continued fisheries research coupled with the impacts of beneficial dredge disposal on the habitat with ULL on the Atchafalaya Delta WMA. Floating Marsh Restoration research continued with LSU on selected freshwater marsh locations along the coast.

Department personnel worked with USDA/Wildlife Services with funding from the U. S. Fish and Wildlife Service (USFWS) on developing and field testing lures and baits to increase trapping efficiency for the control of nutria. The field work was done on the Mandalay Wildlife Refuge. The lure developed demonstrated some positive results in increasing the catch rate.

LDWF worked with The Association of Fish & Wildlife Agencies on the development of Best Management Practices for Trapping Nutria in the United States.

This section also monitors marsh conditions on the coastal WMAs and refuges. Marsh conditions are surveyed both on the ground and through aerial surveys. These surveys are indicators of general marsh health, abundance of aquatic vegetation for waterfowl, abundance of furbearers and many other important components of these ecosystems.

Fur and Marsh Management personnel also collected data on wading birds and shorebirds that nest and feed on these areas and alligator nest densities, and participated in intensive coast wide waterfowl surveys.

Coastwide Nutria Control Program (CNCP)

The CNCP is funded by the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA). The objective is to decrease the damage to coastal vegetation that is caused by nutria by increasing the incentive for harvest. During the 2006-2007 season, a total of 375,683 nutria tails, worth $1,878,415 in incentive payments, were collected from 365 participants. One hundred and two participants (28 percent) turned in less than 200 tails, 94 participants (26 percent) turned in between 200 and 499 tails, 46 participants (13 percent) turned in between 500 and 799 tails and 123 participants (34 percent) turned in 800 or more tails.

Total number of nutria harvested by method of take in 2006-2007

Trapped	Taken with Rifle	Taken with Shotgun
137,131 (37 percent)	164,142 (43 percent)	74,410 (20 percent)

There were 22 parishes represented in the program with harvests ranging from 19 to 113,629 nutria per parish. Approximately 79 percent of the harvest came from the south-central portion of Louisiana.

January was the most active month for harvesting nutria (123,684 tails) while November (18,393 tails) was the least active month (see CNCP 2006 Report, CWPPRA Project LA-03b).

Vegetative Damage Caused By Nutria

As a monitoring requirement of the CNCP, a coast-wide aerial survey was conducted in the spring of 2007 covering the coastal parishes of Louisiana. The total number of sites visited in 2007 was 50, of which four were new sites while 46 were previously classified as damaged in the 2006 survey. All four of the new sites were identified as nutria damaged.

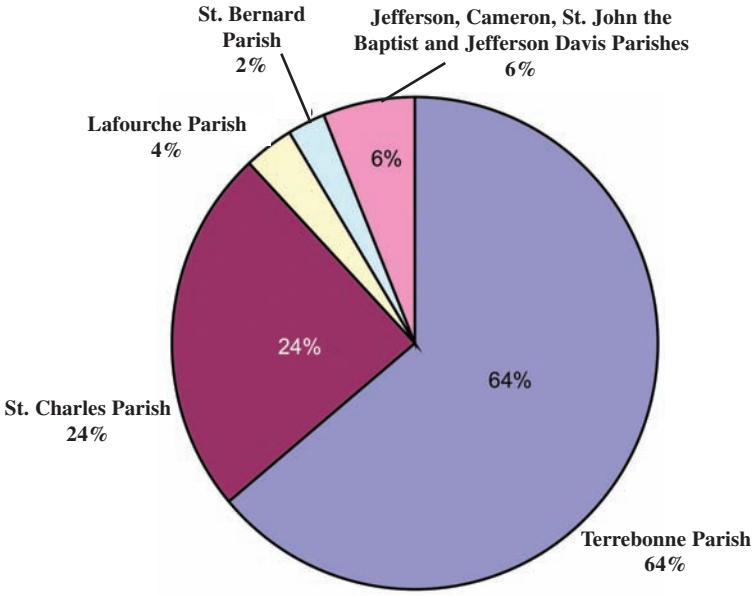
One site that had converted to open water in 2006, and 18 sites that had recovered in 2006 were not re-visited during the 2007 survey.

Of the 50 sites visited in 2007, 23 were related to nutria damage while 16 were related to muskrat damage

Nutria	
Visible nutria herbivory impacts	12
Recovered nutria damage	11
Nutria damage sites that had at least partially been converted to open water	3
Total	***23***
Muskrat	
Muskrat damage	4
Recovered muskrat damage	10
Muskrat damage sites that had partially converted to open water	3
Total	***16***

The 2007 survey identified 23 sites with a total of 34,665 acres impacted by nutria feeding activity along transects. This is approximately a 38 percent decrease from the 55,755 damaged acres reported in 2006.

Percentage of Damaged Acres By Parish
(9,244 total acres)



Although more than half of the damage reported in 2007 was found in Terrebonne Parish, it is important to note that the total did decrease, as is the case in St. Charles Parish which had the second largest percentage of damaged acres reported in 2007. This demonstrates the effectiveness of the Coastwide Nutria Control Program.

MARSH MANAGEMENT

Division staff continued work on several Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) projects and other restoration projects during this period. Staff worked with parish, state and federal government coordinating these projects through planning, meetings, site visits, permitting and project reviews.

Staff also worked on several CWPPRA projects involving coastal WMAs. Division staff attended meetings concerning design, modeling and permitting for Castille Pass, Atchafalaya Delta WMA, East Marsh Island Marsh Creation and Nourishment, East Island - New Cut, Raccoon Island Back Bay Marsh Creation and Whiskey Island West Flank, which are CWPPRA projects. These projects continued with design, permit application, field trips and approval process. Construction of *Phase A*, eight additional rock breakwaters, on the Raccoon Island CWPPRA Project began in February 2006 and completion is anticipated in September 2007. Planning and permit review continued for *Phase B* Raccoon Island Back-Bay Marsh Creation. Coastal stewardship staff attended various CWPPRA meetings concerning the proposed Pass-a-Loutre Dredge Project. The project is being sponsored by the U.S. Army Corps of Engineers (USACE) and U.S. Fish and Wildlife Service (USFWS). The project is being proposed to project list 17 and would involve dredging Pass-a-Loutre from Head of Passes to SE Pass. Staff also worked on the planning of a Wine Island dredging project with the Louisiana Department of Natural Resources (LDNR) and USACE to be constructed in the summer of 2007.

Division staff continued to work closely with USACE on annual maintenance dredging of the Atchafalaya River through the Atchafalaya Delta WMA. Work continued on new potential dredge deposition sites on the lower Atchafalaya River. This required planning and review of specifications during the fall and monitoring of activities during the summer, which included shorebird surveys. In May 2006, USACE initiated the dredging of the Bar Reach (Eugene Island to Offshore) and completed the project in July 2006. The Horseshoe Reach was started in August 2006 and was completed in October of 2006. The Atchafalaya Bar Channel Reach was dredged again beginning in February 2007 and was completed in April 2007. Division staff worked with USACE on newly proposed dredge disposal sites and inspected the completion of the Valentour Island disposal site located on the west side of the navigational channel. LDWF worked with USACE on the Continuously Operating Reference Station (CORS) station installation at the Atchafalaya Delta WMA headquarters. Dredging of South Pass on the Pass-a-Loutre WMA was initiated in November 2006 and was to involve beneficial use of material to fill in the northern section of the freshwater impoundment. The disposal was in East Bay as well as in the north and south reservoir cells of the old sulphur mine. This project encountered many problems such as the closing off Cadro Pass when a containment levee failed, and the stacking of disposal material eight feet higher than the target elevation of +3.5 MLG. Cadro Pass was soon dredged out to pre project-conditions, and negotiations between LDWF and USACE continue concerning the elevation issues. A compensation plan will be complete in and in place by early 2008.

Staff also worked with USACE on new dredge disposal sites in the area south end of "Sawdust Bend" on the Pass-a-Loutre WMA.

LDWF was awarded a grant from the North American Wetlands Conservation Act to construct a Water Management Unit on the Pointe-aux-Chenes WMA. The 5,000-acre unit is located in the center of the WMA and will be managed to enhance a deteriorated salt marsh that is now 60 percent open water; in 1956 this same area was 99 percent marsh. The area will be managed by regulating water levels and salinity to reduce turbidity, increase aquatics and improve emergent marsh diversity. This project was completed in the spring of 2007. LDWF is responsible for managing this unit for wintering waterfowl, shorebirds, wading birds and other coastal estuarine dependent species.

Staff worked with LDNR on the Coastwide Reference and Monitoring System (CRMS) in reviewing and issuing permits for the construction of monitoring sites on the coastal refuges and WMAs. Staff worked with LDNR, U.S. Geological Survey and LSU Coastal Studies Institute to produce a new coastal vegetative type map survey.

Staff also assisted other division personnel with seismic activity monitoring and planning and monitoring of drilling rig movement and mitigation on Atchafalaya Delta WMA. Staff and other division personnel worked with Summit Energy and Fenstermaker Surveyors Inc.on the Marsh Island Refuge Seismic Project and the evaluation process for potential drill locations.

COASTAL STEWARDSHIP OPERATIONS

The Coastal Operations section includes all wildlife management areas (WMAs) and refuges within LDWF's Fur and Refuge Division, with the exception of Rockefeller Refuge and White Lake Conservation Area. These areas include Atchafalaya Delta, Biloxi, Lake Boeuf, Pass-a-Loutre, Pointe-aux-Chenes, Salvador/ Timken and Wisner WMAs and Marsh Island, St. Tammany, State Wildlife and Isles Dernieres Barrier Islands Refuges. Coastal Operations 2005-2006 Annual Report included much information on the involvement of personnel with hurricane recovery, clean-up and rebuilding plans as well as the destruction these 2005 storms caused to the both facilities and habitat under Coastal Operations. During fiscal year 2006-2007, planning and rebuilding from these storms continued.

Continuing from fiscal year 2005-2006 was the set back experienced from personnel cutbacks. Consequently, some annual activities, such as the youth hunts at the Pointe-aux-Chenes and Lake Boeuf WMAs, were reduced, along with assistance with university research projects, waterfowl bag checks and maintenance activities on areas such as Atchafalaya Delta WMA, Salvador WMA and State Wildlife Refuge. Due to continued effects of personnel cutbacks, Coastal Operations staff accomplished little more than maintaining the status quo.

The 2006 teal season harvest-success on the coastal WMAs was 1.3 teal harvested for every hunter effort. This harvest was less than the 2005 season (1.6 teal per hunter effort) as well as the 2004 season (1.7 teal per hunter effort). In addition, hunter interviews during the 2006-2007 regular waterfowl season indicated that the average harvest-success on the coastal WMAs was 2.3 ducks per hunter which was slightly higher than last season (2.1 ducks per hunter effort). However, harvest success (i.e., kill per effort) has decreased by approximately 12 percent since the 2001-2002 season. In conjunction with waterfowl hunter participation/harvest surveys, Coastal Operations staff continued a three-year monitoring project to collect waterfowl gizzards to identify and document what birds are consuming post-hurricanes as compared to years prior to these storms.

Coastal Operations staff continued with mottled duck banding during fiscal year 2006-2007 as part of LDWF's survival study being conducted by Rockefeller Refuge staff. Banding was conducted at Pass-a-Loutre, Pointe-aux-Chenes, Salvador and Atchafalaya Delta WMAs and Marsh Island Refuge. The total number of mottled ducks banded during fiscal year 2006-2007 was 1,071. In addition, 107 wood ducks and one black-bellied whistling duck were banded by Coastal Operations staff at Salvador WMA.

Revised harvest agreements between LDWF and alligator hunters/fur trappers of the coastal WMAs and St. Tammany Refuge were created for the 2005-2006 season and continued to be utilized for the 2006 season. Coastal WMA/refuge trappers were successful in harvesting 234 alligators from Atchafalaya Delta WMA, 385 from Pass-a-Loutre WMA, 280 from Pointe-aux-Chenes WMA, 512 from Salvador/Timken WMAs and 10 from St. Tammany Refuge. No alligators were harvested from Lake Boeuf WMA for the 2006-2007 season.

Deer browse surveys post Katrina and Rita were mixed across the coast. Some areas such as Salvador and Pointe-aux-Chenes WMAs saw reduced browse activity during fiscal year 2006-2007 likely due to fewer animals, as they were likely pushed from the WMA and are slow to return. Areas like Pass-a-Loutre saw a reduction in browse primarily due to the abundance in browse availability. Following the storms, the canopy was removed and has allowed for an explosion of understory. This significant increase in browse has spread browse activity across the WMA and reduced detection on a single line. Thus it is thought that good deer numbers remain.

One of Coastal Operations staff biologist was involved with the second Annual Eagle Expo in Morgan City. This festival involves guided boat tours as well as professional presentations on the bald eagle and wildlife of the Atchafalaya Basin and adjacent swamps.

Coastal Operations staff biologists were also involved in the Louisiana Envirothon. The Louisiana Envirothon works in partnership with resource management professionals and the general public to promote and strengthen the goal of environmental education in the state. The Louisiana Envirothon is a multidisciplinary, environmental problem-solving competition for students in grades 6-12. Teams of five young people from the same school or associated with an organized group (i.e. FFA, 4-H, home-school groups, BSA pack) train and compete in five natural resource areas: soils; aquatic resources; forestry; wildlife; and a current environmental issue. There is also an oral presentation component of the competition, in which teams present a solution to an environmental problem related to the current issue. Throughout the competition students learn hands-on and in a real-life context the complexities of solving environmental problems while working as a team and having fun.

Atchafalaya Delta Wildlife Management Area

Coastal Operations staff continued to participate in the implementation and monitoring of the U.S. Army Corps of Engineers (USACE) Dredge Material Management Program to beneficially use dredge material to create wetlands within the Atchafalaya Bay. During fiscal year 2006-2007, USACE dredged the bay channel and lower reach of the Atchafalaya River. Consequently, USACE used the dredge material from the lower reach of the river to expand the size of T-Pat Island and the last unnamed island on the west side of the channel. In addition, dredge material from the bay channel was used to construct a 5,000-foot island on the west side of Willow Island. The island has been named "Valentour Island" after Mr. Joe Valentour, a USACE inspector that has been involved in the construction of disposal islands on the WMA for over 25 years.

In addition, Coastal Operations staff assisted representatives of USACE with an assessment of the Atchafalaya Delta WMA headquarters to determine if a Continuously Operating Reference Station (CORS) would function properly at the facility. The CORS network is a three-dimensional GPS-based network that provides horizontal and vertical positioning accuracies that approach a few centimeters. USACE hopes to install a CORS for elevation work associated with dredging and beneficial use activities.

Coastal Operations staff continued to provide logistical and technical support for multiple research projects that evaluated various wildlife and fishery aspects of Atchafalaya Delta WMA.

Atchafalaya Delta and New Iberia staff provided logistical accommodations for Dr. Lane Foil's, LSU entomology professor, research to determine if insect vectors of the bluetongue virus are present at the WMA. Area staff also assisted with the collection of river shrimp (*Macrobrachium ohione*) and plankton samples for Dr. Ray Bauer's, UL Lafayette biology professor, research to assess the seasonal variation in the population structure and migration of this species of shrimp, which inhabits the Atchafalaya River. In addition, Dr. Bruce Thompson and Gary Peterson of the LSU Coastal Fisheries Institute continued their study of sport fishery use of marsh islands created via the beneficial use of dredge material. LDWF staff assisted this effort by providing lodging and transportation when required.

In addition to supporting research, the Coastal Operations Section also assisted the National Oceanic and Atmospheric Administration (NOAA) with the construction and servicing of a replacement hydrological station at the Main Delta of the WMA. The station was constructed to replace a station that was destroyed during the demolition of the decrepit light house structure at Eugene Island. The replacement station was constructed adjacent to the bulkhead at the headquarters facility. Coastal Operations staff also provided airboat support to ground truth the accuracy of aerial photography vegetation surveys, which are being conducted to monitor vegetation changes within the vicinity of the Big Island Mining and Atchafalaya Sediment Delivery CWPPRA Projects. These surveys are performed as part of the long term monitoring program for these projects.

Atchafalaya and New Iberia staff assisted the LDWF Mineral and Permit Section with multiple assessments of proposed well sites on the WMA. The assessments were conducted to identify potential impacts of the oil and/or gas exploration to wetlands and hydrology in the vicinity of the sites.

Permits for all available mooring locations were issued for the 2006-2007 hunting seasons. A total of 63 houseboat-mooring permits were issued at the three mooring locations at the Main Delta (28) and Wax Lake Outlet Delta (35).

Based on self-clearing permits and mandatory deer inspection data, 426 archery hunter efforts were expended in the harvest of 73 deer (44 bucks and 29 does), yielding a kill per effort of one deer per 5.8 efforts. This is a decrease in harvest from the 2005-2006 archery season of 108 harvested deer. This decrease in harvest is likely due to less compliance from hunters which may be due to lack of personnel on site for much of the season.

Additionally, during the month of October, one youth lottery deer hunt was held at the Big Island on the Main Delta. A total of 28 youths participated in the hunts and a total of 11 deer (five bucks and seven does) were harvested for a 2.5 hunter effort rate. In anticipation of the hunt, area staff planted food plots, widened and bush-hogged rights-of-way, and prepared the youth box stands to improve hunting conditions for the participants.

The 2006 teal season harvest success at the Atchafalaya Delta WMA was two birds per hunter effort. This is an increase in kill per effort from the 2005 (1.5 per effort) teal season. In addition, waterfowl hunter/harvest surveys revealed that harvest success for the regular waterfowl season was 2.3 birds per effort. This is an increase from the 2005-2006 season of 1.9 birds per effort.

New Iberia staff gathered and presented data/information to support a 2 p.m. closure of the Atchafalaya Delta for waterfowl hunting. The closure was added to the proposed 2007-2008 regulation changes by Coastal Operations staff in December 2006 to protect wintering waterfowl at Atchafalaya Delta WMA. Hunting pressure has substantially increased over the past several years, which has adversely impacted waterfowl behavior/distribution on the WMA. The proposed 2007-2008 hunting regulations changes were adopted during the April 5 LDWF Commission meeting with Atchafalaya Delta WMA waterfowl hunting to close at 2 p.m. daily. However, due to public opposition after the fact the 2 p.m. closure was rescinded.

New Iberia and area staff conducted periodic shorebird surveys at the WMA as part of the U.S. Fish and Wildlife Lower Mississippi Valley Shorebird Monitoring Program and the USGS 2007 International Piping, Snowy and Wilson's Plover Winter Census. Many species of shorebirds were observed during the surveys including semi-palmated plovers. However, no piping, Wilson's or snowy plovers were observed.

During the 2006 alligator season, 234 alligators having an average length of 7.6 feet were harvested from the area. The trappers received approximately $40.25 per foot for the sale of the alligators. In addition, the department received $28,733.26 for the 40 percent share of the revenue from the harvest.

According to user surveys, approximately 24,480 recreational users visited the WMA during fiscal year 2006-2007.

Biloxi Wildlife Management Area

The waterfowl seasons on these areas were fair to very good with most hunters harvesting green-winged teal and gadwall.

Isle Dernieres Barrier Island Refuge

Many CWPPRA meetings and field trips were attended by Coastal Operations personnel involving New Cut Dune and Marsh Restoration (TE-37) and Raccoon Island Shoreline Protection/Marsh Creation (TE-48) CWPPRA projects. New Cut project began building dune and back barrier marsh in early 2007 in the cut formed several years ago between Trinity Island and East Island. It also includes vegetative plantings. Raccoon Island Shoreline protection began in 2006 and includes creating an additional eight breakwaters. The marsh creation component is planned for construction in 2008. Several presentations were made by Coastal Operations staff to the Terrebonne Parish Council meeting and at a site visit to LUMCON. Staff also worked on the planning of a Wine Island dredging project with LDNR and USACE to be constructed in the summer of 2007.

In 2006, Fur and Refuge staff secured a $200,000 grant from the USFWS to contract with University of Louisiana on a brown pelican research project. The project will:

- determine the effects of tropical storms and hurricanes on brown pelican productivity from 1968-2008.
- translocate brown pelicans from Raccoon Island to a suitable nesting colony site at Isles Dernieres, Timbalier or East Timbalier Islands.
- evaluate habitat conditions and nesting site preference at the new colony or colonies,
- band brown pelicans at Raccoon Island to determine movement and survival.

- collect blood samples to monitor the presence of contaminants within the brown pelican population.

Field work on this project began in May 2007.

Winter plover surveys were conducted by staff in February 2007 with small numbers of piping plovers documented as well as many shorebirds.

Lake Boeuf Wildlife Management Area

Hurricanes Katrina and Rita toppled many mature oak, cypress and tupelo trees across the WMA. The trees that crossed access roads, waterways, spoil banks and the ridge were cleared. The youth hunting stands were maintained, but due to manpower constraints the youth hunts were cancelled.

According to self-clearing permits only one attempt was made to harvest deer this year and it was unsuccessful.

Due to the effects of Hurricane Katrina, the Lake Boeuf WMA trapper, Mark Bladsacker, was unable to attempt an alligator harvest for the 2006 alligator season.

Marsh Island Refuge

The second phase of the Summit Energy/Petroleum Geo Services (PGS) 3-D seismic survey began during fiscal year 2006-2007. The goal of this phase was to encompass 131 square miles and include the eastern half of the island and portions of the Vermilion and Cote Blanch Bays. The completion date for the second phase was August 2006. With the aid of Tom Hargis, environmental monitor for the Russell Sage Foundation, and Coastal Environments Inc., monitor for the survey company, LDWF staff carefully monitored the seismic effort to ensure that the PGS/Summit Energy survey was implemented in accordance with departmental regulations. Although the shoot was promised to be a "zero impact" survey, some marsh damage resulted from repetitive passes of airboats in frail marsh. However, the adversely affected areas will hopefully return to pre-project conditions following one to three growing seasons.

Coastal Operations and Minerals Management personnel attended meetings and field trips with Summit Energy staff on proposed future drilling sites. Staff provided input on access, recommended locations, etc.

Area staff transported BFM Corporation employees to the Marsh Island headquarters to perform an elevation survey to determine base flood elevations for the building at the refuge. The survey was conducted to provide an elevation certificate to the Office of Risk Management (LDOA) for flood insurance purposes.

Coastal Estuary Services LLC (CES), a subsidiary of Shaw Coastal, completed the installation of seven stations for the Marsh Island segment of the Coastwide Reference Monitoring System Project (CRMS). The project, which is funded by Coastal Wetland Planning, Protection and Restoration Act (CWPPRA), was developed to assess the cumulative effects of all the coastal restoration projects by establishing a network of reference sites across Louisiana's coast. New Iberia and Coastal Operations staff assisted with the endeavor by providing access to the headquarters facility for the storage of equipment and supplies and provided logistical assistance for the installation of the stations.

Coastal Operations staff provided logistical assistance for several interagency field reconnaissance trips at the refuge to conduct inspections of the East Marsh Island Marsh Creation CWPPRA Project site. The objective of the evaluation was to survey changes to the project site over the past two years. This project is scheduled to compete for phase II funding in 2009.

A meeting was held at the Marsh Island headquarters with representatives from FEMA to review FEMA Project Worksheets and re-evaluate damages from Hurricane Rita. The objective of the trip was to update the "scope of work" for repairing the facility. Several other meetings regarding hurricane repairs, etc. were held as well.

New Iberia and Marsh Island staff assisted the Marine Fisheries Division with hosting a summer workshop at Marsh Island for the Iberia Parish Library System. In addition, New Iberia staff hosted a backyard wildlife workshop at the Iberia Parish Library. These workshops were held to provide young adults with an understanding of natural resource conservation by demonstrating and explaining wildlife and fisheries management techniques.

Staff provided logistical support for a USFWS field reconnaissance to Shell Keys National Wildlife Refuge. The USFWS hopes to initiate the development of a comprehensive conservation plan (CMP) for the next 15 years. The field trip was the first step towards creating a management plan.

In November 2006 an amateur film crew made up of students and faculty from University of New Orleans and Delgado Community College obtained footage of wetlands and wildlife at the Marsh Island Refuge for an independent television series called "The Wild Side of Louisiana." The goal of the series is to notify the public of natural resource conservation in Louisiana and address current Louisiana issues, such as coastal wetland loss and restoration. The crew hopes to air the program on cable networks and/or public broadcasting in the New Orleans and Baton Rouge area. New Iberia and area staff assisted with this endeavor by providing logistical transportation and background information about management activities at the refuge.

Controlled burning of nearly 15,900 acres of the island was conducted to increase the production of preferred food plants, especially three-cornered grasses (*Schoneplectus robustus/ olneyi*), which are critical forage for the thousands of geese that utilize the area each winter. Maximum numbers of snow geese were approximately 90,000, many of which were observed foraging in the burned areas during LDWF's 2006 aerial surveys.

The two shorebird/colonial water bird nesting islands in Bayou Platte were mowed and sprayed with herbicide in February 2007 in preparation for the nesting season. The removal of vegetation from the islands exposes the shell/limestone surface, which is vital for successful nesting. A variety of species were observed utilizing the island, including black-necked stilts (*Himantopus mexicanus*), black skimmers (*Rynchops niger*), gull-billed terns (*Sterna nilotica*), least terns (*Sterna antillarum*), laughing gulls (*Larus atricilla*) and killdeer (*Charadrius vociferus*).

In addition to periodic bird monitoring, New Iberia staff conducted a survey of the refuge and as part of the USGS 2007

International Piping, Snowy and Wilson's Plover Winter Census. None of the target species of plovers were observed during the assessment.

Coastal Operations and New Iberia personnel conducted surveys of the terraces in Oyster Lake to determine if mottled ducks are using the project site as nesting habitat.

Coastal Operations staff attended multiple meetings concerning the potential reintroduction of the whooping crane to Marsh Island Refuge and coastal Louisiana. In addition, LDWF provided logistical assistance for a field trip to Marsh Island for participants of the January 29-February 3, 2007 Whooping Crane Conference in Lafayette, LA. The objective of the field trip was to provide members of the Whooping Crane Conservation Association and the Whooping Crane Recovery Team with a tour of the refuge. Departmental staff also provided the attendees with information about management activities and research conducted at Marsh Island.

New Iberia and area staff provided logistical support for an interagency field reconnaissance with the Louisiana Department of Agriculture and Forestry (LDAF) and the Natural Resources Conservation Service (NRCS) personnel to perform an annual inspection of past planting projects at the island as part of the LDAF Vegetative Planting Program. In addition, attendees met to discuss potential projects for the 2007 and 2008 planting seasons.

New Iberia staff provided transportation to Marsh Island and State Wildlife Refuges for Mr. Wayne Mouton, Abbeville High School agriculture teacher, and several students to plant bitter panicum (*Panicum amarum*). Seedlings were planted on the beach of Marsh Island (approx. two miles SE of Lighthouse Point) and along the shoreline of the Vermilion Bay (next to State Wildlife Refuge headquarters).

To improve public safety after several public complaints, New Iberia and area staff coordinated and assisted with the removal of 12 nuisance alligators averaging 7.7 feet that were frequenting three weirs, the Gordy, Belly and Big Dams, which are commonly used by the public. No commercial alligator harvest was conducted on the refuge during fiscal year 2006-2007.

The Fur and Refuge Division Maintenance Section performed minor repairs to the headquarters facility. The crew replaced vinyl siding on the south side of the camp, replaced the railing on the porch, rebuilt the lower storage room and conducted other miscellaneous repairs.

Area staff continued to assist with search and rescue at (and in the vicinity of) Marsh Island Refuge. The rescues were typically to assist with stranded boats and engine malfunctions.

According to user surveys, approximately 29,800 recreational users visited Marsh Island Refuge during fiscal year 2006-2007.

Pass-a-Loutre Wildlife Management Area

As stated in the 2005-2006 Annual Report, following Hurricane Katrina the facilities at Pass-a-Loutre experienced severe damage. FEMA continued with plans to rebuild the camp and other facilities, visited the site, met with staff on several occasions and prepared necessary paperwork to repair the facilities.

Since Hurricane Ivan in 2004, oil spills have become a chronic problem. During fiscal year 2006-2007, staff responded to over a dozen spills across the WMA and assisted with two on USFWS land adjacent to the WMA. One spill originated immediately after Katrina and is still releasing product. This spill is adjacent to Dennis Pass, and has been labeled as the "Mystery Spill" because a responsible party has not yet been identified. Area staff spent a great deal of time in assessing and monitoring these spills as well as recommending remediation.

Forest Oil had an oil transfer barge explode at their facilities. The barge contained a reported 480 barrels of oil. The explosion killed one worker and severely injured another. The LDWF headquarters was used as an emergency operations center for the U.S. Coast Guard (USCG) to respond to the incident. LDWF staff assisted in transporting wounded workers and with recovery of the deceased worker. LDWF staff discovered the body the day after the explosion. The explosion was a result of the workers welding on the single skin transport barge. ES&H, Inc. responded to clean up the released oil.

Oil and gas operations are continuing to increase in the aftermath of the 2005 storms. Gold-King has begun dredging several future well locations in preparation for increased drilling operations. Other companies such as Dune, Forest Oil, Chevron and others have also been active on the WMA. Area staff, as well as the Minerals Management Section, met with oil and gas companies on prospective best use practices and least impact approaches and monitor all work activities.

Devon Entergy created a mitigation crevasse on Rattle Snake Pass. Devon Entergy also supplied two picnic tables to the WMA for mitigation purposes. These tables were assembled by area staff and placed on the South Pass Campground.

A meeting was held at Pilot Town concerning restoration of power to Pilot Town and Pass-a-Loutre. Entergy personnel, commission members and the secretary of the Public Service Commission, Pilot Town personnel, including the union president, and LDWF personnel were in attendance. Power was scheduled to be returned by late February 2007 but was delayed. Power was restored in May 2007.

USACE conducted a South Pass Dredge Project with disposal in East Bay as well as in the north and south reservoir cells of the old freshwater reservoir. This project encountered many problems. The contractor closed off Cadro Pass when a containment levee failed, and later was found to be stacking the disposal material eight feet higher than the target elevation of +3.5 MLG. Cadro Pass was soon dredged out to pre-project conditions, and negotiations between LDWF and USACE continue concerning the elevation issues. A compensation plan will be complete and in place by early 2008.

LDWF has stated concerns to LDNR concerning the impacts of the USACE hopper dredging and disposal program into Pass-a-Loutre. The impacts that were described included shoaling of the

entire pass leading to severe marsh losses down stream of Head of Passes. LDNR responded by halting all disposal of dredge material into the pass until the impacts were investigated and a new consistency determination is made. Since that time LDNR has issued USACE a permit to dispose into Pass-a-Loutre on a limited basis until the investigations are completed. LDNR has issued the USACE New Orleans District (NOD) a temporary permit to allow them to continue disposing hopper dredge materials into Pass-a-Loutre through May 31, 2008. After this time they will not be allowed to do so pending an investigation of impacts to the pass and the adjacent marsh. USACE has also been tasked with comparing expenses of their current operation with a beneficial use of the materials utilizing "hopper pump-outs."

Coastal stewardship staff attended various CWPPRA meetings concerning the proposed Pass-a-Loutre Dredge Project. The project is being sponsored by USACE and USFWS. The project is being proposed to project list 17 and would involve dredging Pass-a-Loutre from Head of Passes to SE Pass.

LDWF Fur and Refuge maintenance crew worked at the WMA dredging access to four campgrounds, used the bulldozer to level one campground, dredged the access canal to the headquarters and moved the hurricane destroyed Quonset huts to the bank of Dennis Pass for easy removal.

A deer tagging project was initiated this year. The goals of the project are to better understand deer habits in a freshwater marsh and to compare tooth wear and replacement patterns on known age wild deer to the Servinghause method. This past year, eight deer were tagged using airboats at night.

The mottled duck nesting project continued. Twelve nest rolls were set out and one successful nesting was observed. This was the first recorded successful use of an artificial nesting habitat by a mottled duck in Louisiana.

The 2006 teal season harvest success at the Pass-a-Loutre WMA was 1.3 birds per hunter effort. In addition, waterfowl hunter/ harvest surveys revealed that harvest success for the regular waterfowl season was 3.2 birds per effort. This is a significant increase from the 2005-2006 season of 1.7 birds per effort and is undoubtedly due to the improving conditions post hurricane.

Based on self-clearing permit and mandatory deer inspection data, 61 deer hunter efforts were expended in the harvest of six deer yielding a kill per effort of one deer per 10.2 efforts. This low harvest is likely due to less compliance from hunters which may be due to lack of personnel on site for half of the season. Hog hunters harvested five hogs for 20 efforts for one hog per four efforts.

Pass-a-Loutre WMA trappers harvested 385 alligators at an average length of 7.2 feet and an average price of $38.96 for the 2006 alligator season. LDWF received $43,419.980 for the 40 percent share of the revenue from the harvest.

Past decisions made to reduce staffing from four personnel on the WMA to two are still having negative effects on operations. Some strides have been made to hire temporary and full time personnel but the area is still well below adequate capacity. This situation has led to a significant inefficiency in performing duties on all southeast managed areas.

According to user surveys, approximately 32,790 recreational users visited the WMA during fiscal year 2006-2007.

Pointe-aux-Chenes Wildlife Management Area

As discussed in the 2005-2006 Annual Report, Pointe-aux-Chenes (PAC) WMA experienced Hurricane Katrina damage to facilities, equipment, levees and habitat. Much of the work done by the small staff during fiscal year 2006-2007 was related to continued clean-up and repair of these items. Some of this work included leveling the headquarters road, cleaning storm debris from a portion of the Grand Bayou levee system and on the campground and repairs to boat launches and parking lots. Other routine maintenance projects included installation of new lighting on the Grand Bayou boat launch/parking lot, gate installation on the Jean Charles Ridge Levee, clearing fire breaks and roads on Point Farm, preparing and planting the dove field (sorghum, brown-top millet, and Japanese millet) as well as planting cypress and oak, cleaning the PAC/Ducks Unlimited (DU) and Grand Bayou water control structures and boat launches and a large ditch cleaning/reconstruction project to restore drainage to Point Farm.

Oil and gas operations kept staff involved with planning and monitoring of related work. Companies such as Baby Oil, Tellus Oil, Chevron and Gulf South Pipeline met with PAC staff on issues such as repairs to an existing flow line, work-over rig on Point Farm, pipeline repair, marking and maintenance. As expected with oil and gas operations, spills and other related issues occurred. Some problems included Baby Oil's facility on the WMA and Tellus Oil. Often spills require staff time for meetings, such as in this instance where a meeting was held at the site and attended by the Louisiana Oil Spill Coordinator's Office (LOSCO), Louisiana Department of Environmental Quality (LDEQ), LDWF and the Office of Conservation. The Bully Camp Seismic Project was initiated and completed on the WMA this year.

Veritas completed a 3-D seismic job on the WMA this year. Light aluminum buggies were used to drill holes and airboat restrictions were placed on the operators to limit marsh damage. The project was closely monitored by LDWF personnel and little damage was observed.

The PAC/DU Impoundment was accepted by LDWF last year and incorporated an additional 5,700 acres of marsh and shallow water bottoms into more aggressive management. Several repair issues have been made to the water control structures this year including damage caused by vandals setting fire to the PAC/DU S2 water control structure.

Other levee repairs included the USACE Grand Bayou levee, removing storm debris from the footprint of the levee and repairs to the Montegut Levee adjacent to the new structure. Morganza to the Gulf J1 levee project continued this year.

Ashley Wilson with LSU continued surveying vegetation plantings on the PAC terraces and Chris Reid performed a vegetation survey on the area.

Permanent vegetative monitoring sites have been established in the PAC water management unit as required by the operational permit.

The Terrebonne Parish Planning District approved the two proposed birding towers which are scheduled for construction in 2008.

Area staff assisted in locating nesting mottled ducks on the terraces. Three nests were located. One of the nests was predated, another was just laid and the third was just beginning to hatch.

BFM Corporation and contractors for the Office of Risk Management, surveyed elevations of several structures on the WMA. Personnel with BFM did not call in advance and were recording wrong elevations to several buildings.

Area staff, along with Heather Finley, met to discuss installment of new water control structure in Grand Bayou #1. The funding for the project will be federal funds dedicated to Gulf states to enhance fisheries habitat along the Gulf Coast in the wake of the 2005 hurricane season.

The 2006 teal season had a slightly lower success rate than the 2005 season. Hunters averaged 1.3 teal per hunter attempt. The regular duck season was higher than the 2005-2006 season. Hunters this year averaged 2.4 ducks per hunter compared with 2.2 ducks per hunter the prior season.

The deer season youth hunt resulted in 34 hunter attempts which yielded one harvested deer. The deer season resulted in 55 hunter attempts which yielded no deer. Apparently, self clearing permits are not being properly utilized as no deer were reported harvested.

During the 2006 alligator season, 280 alligators, having an average length of 6.8 feet, were harvested from the area. The trappers received approximately $36.86 per foot for the sale of the alligators. LDWF received $28,211.60 for the 40 percent share of the revenue from the harvest.

According to user surveys, approximately 38,110 recreational users visited the WMA during fiscal year 2006-2007.

Salvador/Timken Wildlife Management Areas

This area continues to remain unstaffed, and staff from Pass-a-Loutre maintains the area on a routine basis. In addition to routine maintenance of facilities and grounds, staff planted 100 cypress trees were planted and 10 wood duck boxes were erected on the WMA.

Water hyacinth (*Eichhornia crassipes*) continues to be a problem on the WMA since the opening of the Davis Pond Diversion. The aquatic weed control section has been working on the area to aid in minimizing the problems.

The Davis Pond Diversion has operated much more this year due to higher river stages. Approximately two-thirds of Lake Cataouatche was filled with dense submerged aquatics. This is the highest extent of vegetation found in the lake in recent history. The dominant vegetation is hydrilla, but a wide diversity can be found. USACE widened five of the cuts along the Lake Cataouatche shore line. This was to facilitate improved drainage of the ponding area of the Davis Pond Diversion Project. The contract to install PVC sheet piling along the West Guide Levee of the Davis Pond Diversion Project was awarded. LDNR and USACE met concerning adding additional cuts to the ponding area in the Cypress Lumber Canal Levee. LDWF submitted ideas for additional cuts including the hydrologic restoration of the Bois Piquante Oak Ridge Bayou.

The seismic project initiated in early 2006 was completed. Staff assisted in planning and coordination of this project.

FEMA, along with Risk Management, visited the WMA with LDWF personnel to open a claim on the facilities.

Hunters during the 2006 teal season experienced an average success rate of 1.5 teal per hunter effort. This success rate is down from the 2005 season success of 2.2 teal per hunter effort. During the 2006-2007 season, hunters increased their success rate to two ducks per hunter. This is slightly down from 2.2 ducks per hunter the previous season.

Deer hunters expended 298 hunting attempts this year harvesting 24 deer for a success rate of one deer per 12.4 hunts.

During the 2006 alligator season, 512 alligators having an average length of 6.5 feet were harvested from the area. The trappers received approximately $33.65 per foot for the sale of the alligators. LDWF received $45,111.66 as its 40 percent share of the revenue from the harvest.

According to user surveys, approximately 33,150 recreational users visited the WMA during fiscal year 2006-2007.

St. Tammany Wildlife Refuge

This area continues to be managed by the USFWS along with Big Branch Refuge.

A CWPPRA project (Goose point #2) was proposed by the USFWS.

Ten alligators having an average length of 6.7 feet were harvested from the area during the 2006 alligator season. Francis Montichek, the area trapper, received approximately $32.14 per foot for the sale of the alligators. LDWF received $947.40 as its 40 percent share of the revenue from the harvest.

State Wildlife Refuge

New Iberia staff assisted FEMA personnel by providing information about equipment loss/damage for the FEMA State Wildlife Project Worksheet. In addition, New Iberia staff reviewed and approved the worksheet, which will provide $83,852 for the replacement of lost equipment from Hurricane Rita. Staff also met with FEMA on site to review worksheets, etc.

The Fur and Refuge Division Maintenance Section repaired the North Lake Weir to allow public access to the weir for the spring shrimp season. The weir was closed to public access after Hurricane Rita due to the poor condition of the weir's walkway. The Maintenance Section also made minor repairs to the Trappers' Camp at the headquarters facility. The crew constructed

new stairways for the building, repaired faulty electrical wiring and reconnected the facility to SLEMCO's shore power when service was restored. In addition, the camp siding was replaced, a stair case was built to the elevated storage area in the boat shed, a new water softener was installed and repairs to the water well were completed. The camp was repaired to provide living accommodations for departmental employees while conducting work at State Wildlife Refuge. It will also serve as a temporary headquarters for Marsh Island while the Marsh Island headquarters is being refurbished via FEMA funds.

In addition to routing maintenance activities at the headquarters facility, Coastal Operations staff disposed of hurricane debris and damaged equipment from the headquarters.

New Iberia staff assisted Office of Risk Management with an assessment of the State Wildlife Refuge building inventory. The building appraisal process is conducted every three years by the Office of Risk Management.

During fiscal year 2006-2007, two artificial reefs were constructed along the bay shore of the refuge in Vermilion Bay. The two reefs were constructed via funding generated by the Coastal Conservation Association (CCA) and the Louisiana Wetland Association (LWA). The CCA reef was constructed east of North Lake and the LWA reef was constructed north of Prien Bayou.

Due to the lack of use of the facility, salinity, rainfall and recreational use data was not collected at the refuge. However, Coastal Operations staff anticipates the return with an active presence at State Wildlife Refuge when the facility is returned to a functional state.

MINERALS MANAGEMENT

The mineral program is responsible for ensuring that mineral activities on all LDWF properties are compatible with the environment and that wildlife management area/refuge goals and objectives are met. Mineral program staff reviewed and evaluated 104 well locations, pipeline projects and other mineral exploration related permits on LDWF properties. The mineral program also issued 12 rights-of-way, four surface leases and three State Agency Leases during fiscal year 2006-2007. All of these projects are reviewed and coordinated with field personnel to ensure that they are compatible with LDWF management area programs. The mineral program generated fees in excess of $22 million, which included mineral royalties, rights-of-way, surface leases and seismic fees. In addition, the mineral program staff issued 31 airboat/marshbuggy permits for various activities on LDWF properties. The mineral program also coordinated with the Office of Conservation for the removal of numerous abandoned oil and gas facilities on WMAs and refuges.

The mineral program continues to work closely with other programs within LDWF and the Coastal Management Division within Louisiana Department of Natural Resources in the implementation of the efforts of the streamlining of Coastal Use Permits.

HABITAT

The objectives of the Habitat Section are to gather and compile data on fish and wildlife resources, determine the requirements for conserving the resources and provide information and technical assistance to governmental agencies, non-governmental entities and the public. Data are also gathered on the potential impacts of human activities on the resources. These data and recommendations are provided to planners and decision-makers in advance of execution of projects in order to avoid, minimize or mitigate for any adverse environmental impacts. In fiscal year 2006-2007 the Habitat Section was divided into the six following programs: Louisiana Natural Heritage Program; Louisiana Wildlife Action Plan and State Wildlife Grants; Statewide Environmental Investigations; Louisiana Natural and Scenic Rivers Program; Nongame Program; and Geographic Information Systems Program

Louisiana Natural Heritage Program

The Louisiana Natural Heritage Program (LNHP) gathers, compiles and disseminates information on unique, rare, threatened and endangered species, and unique, rare and critical habitats on the state, federal and international level.

LNHP staff reviewed 1,062 project proposals and produced 10 digital data agreements for various public and private projects, assessing possible impacts on rare, threatened and endangered species and exemplary natural communities. Approximately 250 field days were spent by staff conducting surveys on individual species and natural communities for updating the LNHP database. A total of 61 new Element Occurrence Records (EORs) and 291 updated EORs were entered into the database.

The LNHP administers federal aid grants for species of special concern through the Endangered Species Act, Section 6 Program, and participates in the State Wildlife Grants (SWG) Program. Section 6 projects included the following species: interior least tern; gopher tortoise; Louisiana black bear; red-cockaded woodpecker; Louisiana pine snake; Louisiana pearlshell; manatee; and the endangered plant earthfruit. Projects funded through SWG included breeding bird surveys, computerizing rookery and stream data, digitizing longleaf pine sites and the Natural Area Registry Program.

During fiscal year 2006-2007, LNHP cooperated with the Louisiana Forestry Association to develop and post 74 "fact sheets" on LDWF's Web site. These fact sheets describe species and natural communities in Louisiana that are ranked as G1 (critically imperiled) or G2 (imperiled). For each element, a description, distribution, threats, beneficial management practices and a list of references were among the information included. Photos of each were also included. These fact sheets are available on the LDWF Web site at *www.wlf.louisiana.gov/experience/naturalheritage/g1andg2elements/*, and are a valuable resource to researchers and the public. In addition, the project will be used as a springboard to develop other fact sheets in subsequent years.

The LNHP staff participated in Christmas Bird Counts, Breeding Bird Surveys and statewide Louisiana Amphibian Monitoring Program survey routes.

Louisiana Wildlife Action Plan and State Wildlife Grants

LDWF, through congressional funding, developed a comprehensive 10-year guidance document for implementing conservation in Louisiana. The document, known as the state's

Wildlife Action Plan (WAP), has four major goals: species conservation; habitat conservation; outreach and education; and partnership building. Approved in December 2005, the WAP will guarantee continued federal funding for conservation of species of concern.

In November 2006, LDWF hired Andrew Ardoin to coordinate implementation of the WAP and State Wildlife Grants (SWG) program.

A SWG Request for Proposals was published on March 5, 2007. Thirty proposals were received of which 19 were selected by the SWG Committee for funding. Eight of the funded proposals were in-house proposals submitted by LDWF staff. Example in-house projects included habitat management for shorebirds, statewide surveys for rare species and an evaluation of forest management practices on song birds. The 11 other funded proposals were submitted by universities, non-governmental organizations and one individual. Examples of projects from outside LDWF included development of best management practices to conserve endangered freshwater mussels, work with private landowners to conserve the Louisiana black bear and a study to improve the value of barrier islands as nesting habitat for birds.

During fiscal year 2006-2007, 14 previously authorized SWG grants were closed. Copies of final reports for each of the closed grants were made available from the WAP/SWG Coordinator. At the close of the fiscal year, 34 SWG grants were active, including six in-house grants which were funded year-to-year.

Statewide Environmental Investigations

Statewide Environmental Investigations is authorized under the U.S. Fish and Wildlife Coordination Act and is partially funded by a USFWS grant. Staff is responsible for reviewing and providing comments and mitigation recommendations on all permits sought from state and federal environmental regulatory agencies. Staff members received and reviewed approximately 1,600 state and federal permit applications during fiscal year 2006-2007. In response, written comments and recommendations aimed at avoiding, minimizing and/or mitigating adverse impacts were issued for all state and federal permit applications received.

In addition to permit review, staff participated in permit site inspections and habitat evaluations, provided technical assistance to the public on wetland issues and worked with private developers and consultants involved in the regulatory process. Staff spent approximately 121 days conducting on-site field inspections and participated in approximately 126 meetings with applicants, agents and regulatory agency personnel.

Staff members also represented the agency on two interagency Mitigation Bank Review Teams chaired separately by USACE's Vicksburg and New Orleans Districts.

Staff was involved in the planning and evaluation of 16 proposed Federal Energy Regulatory Commission (FERC) pipeline projects. FERC regulates the interstate transmission of natural gas, oil and electricity. Each of these 16 large scale pipeline projects crossed multiple parishes and often posed significant adverse impacts to wetlands, stream crossings, riparian corridors, species and communities of conservation concern and other fish and wildlife resources. Staff worked with the applicants, agents and FERC to avoid, minimize and/or mitigate these adverse impacts.

LDWF worked with numerous governmental agencies in conducting environmental investigations including USFWS, National Marine Fisheries Service, Environmental Protection Agency, USACE, U.S. Forest Service and the Natural Resources Conservation Service of the U.S. Department of Agriculture, Federal Highway Administration, Federal Aviation Administration, Farmers Home Administration, U.S. Coast Guard, Department of Energy, Federal Energy Regulatory Commission, Department of Defense, Housing and Urban Development, as well as Louisiana Department of Transportation and Development, Louisiana Department of Natural Resources, Louisiana Department of Environmental Quality and the Louisiana Department of Culture, Recreation and Tourism.

Statewide Environmental Investigations also assisted in protecting all lessees of private oyster grounds by reviewing and approving, sometimes with modification, water bottom assessments submitted by project applicants prior to the initiation of activities affecting state water bottoms under lease to private parties for oyster production. Approximately 150 water bottom assessments were reviewed and approved by agency staff during fiscal year 2006-2007. Coastal Use Permit applicants can be required, at the request of Statewide Environmental Investigations staff, to modify the activity if the proposed location unnecessarily impacts an oyster reef.

Louisiana Natural and Scenic Rivers Program

The Scenic Rivers Program is charged with the administration of the Louisiana Natural and Scenic Rivers Act. The act requires that LDWF, through the Scenic Rivers Coordinator, administer a permitting system for activities that have potential for significant ecological impact to designated natural and scenic rivers, as well as a system of monitoring, surveillance, investigation and enforcement for the purpose of insuring compliance with the Act. The Scenic Rivers Act, and the rules and regulations promulgated under its authority, provide for the development of management plans, stream surveys and enforcement.

There are currently approximately 80 streams and/or stream segments in the system constituting an estimated 3,000 linear miles of Louisiana's streams, rivers and bayous. Drake's Creek in Vernon Parish, which was nominated by the Legislature in 2006 for inclusion in the Scenic River System, was studied and ultimately recommended by LDWF for inclusion. Black Creek in Grant Parish was nominated for inclusion in the system by Senate Concurrent Resolution in the 2007 Regular Session and is currently being evaluated by the Scenic Rivers Program staff to determine whether it qualifies for inclusion. If included, it will result in an average addition of one stream per year to the system over the last 11 years.

Several enforcement actions were initiated in fiscal year 2006-2007. These included cases of channelization/channel realignment, reservoir construction, operating on scenic rivers without permits and illegal commercial cutting of trees. One case of channel realignment in St. Tammany Parish has resulted in an

ongoing restoration effort by the responsible party. Staff has continued to work with the Webster Parish Police Jury and the State Land Office to remove a number of out-of-service bridges and other man-made obstructions on Bayou Dorcheat, thus restoring navigability and natural flow to the stream. The coordinator, through routine surveillance, project inspections and response to complaints, ensured compliance with permit conditions, utilization of adequate sediment control measures and appropriate clean up and restoration of permitted project sites.

The coordinator maintained regular contact with both state and federal agencies to insure that designated scenic rivers were considered in all levels of planning and permitting. The coordinator also worked closely with city planners, police juries, mayors and local interest groups and organizations throughout the state. The coordinator gave presentations on the program to two local civic organizations and participated as chair on a parish government board formed to restore and promote Bayou Dorcheat in Webster Parish. Efforts related to the selection of the I-69 Corridor through Webster and Claiborne Parishes resulted in modifications to the proposed interstate corridor that resulted in significantly reduced impacts to Bayou Dorcheat. Interstate crossings of Middlefork and Corney Bayous were ultimately eliminated entirely from consideration and the Dorcheat crossing was given the highest priority as a factor in the final corridor selection process.

Nine emergency Scenic River permits were issued for Hurricane Katrina related cleanup and the coordinator worked closely with the Natural Resources Conservation Service and the affected parishes to insure that this work was done in an environmentally sensitive yet expedient manner. This included participating in several meetings, production of a training video, site visits and work groups with other regulatory entities and those contracted to conduct the physical removal of storm debris.

A total of 36 Scenic Rivers permits were issued during fiscal year 2006-2007. The coordinator spent 54 days in statewide travel status conducting site visits and investigations, giving presentations and attending meetings.

Nongame Program

The Nongame Program is responsible for monitoring and providing management recommendations for nongame resources statewide. This is accomplished through a variety of population monitoring and surveying projects as well as technical assistance programs. The following is a summary of the projects and programs conducted by the Nongame Program.

The Nongame Program completed the second and initiated the third year of the Sherburne WMA Monitoring Avian Productivity and Survivorship Study (MAPS). This ongoing project is designed to assess LDWF's timber prescriptions on nongame landbird populations. LDWF staff will perform a detailed data analysis after five years of MAPS data have been collected. LDWF's participation in the nationwide MAPS program allows researchers to assess regional nongame landbird population trends as well as local population trends.

The Nongame Program completed the second and initiated the third year of demographic monitoring for the state and federally-endangered red-cockaded woodpecker (RCW) at Alexander State Forest WMA. Monitoring was conducted for 13 potential breeding groups of RCWs which included nest monitoring, nestling and adult color banding and fledgling checks to determine survivorship of nestling RCWs. In addition, habitat improvement recommendations were provided to Louisiana Department of Agriculture and Forestry personnel with regards to timber harvest plans and the removal of hardwood midstory within RCW nesting sites. Nongame Program staff also installed artificial insert cavities at Alexander State Forest WMA to provide adequate nest and roost cavities for the RCW population.

The Nongame Program continued to implement and promote the Louisiana statewide RCW Safe Harbor Program (SHP), and the associated Louisiana Landowner Incentive Program (LaLIP). Consultations and site visits were conducted with private landowners interested in the programs. In addition, presentations regarding the SHP and LaLIP were conducted at various public forums.

The Nongame Program acquired USFWS funding and initiated demographic monitoring for the RCW population at SE Louisiana Hospital. Technical guidance was also provided to the Louisiana State Lands Office personnel regarding a timber harvest strategy to improve the RCW habitat at the site. Public outreach was also provided for SE Louisiana Hospital personnel to inform them of the RCW management being performed on the hospital grounds.

The Nongame Program staff coordinated and conducted other wildlife surveys and activities, including the following:

- Coordinated and conducted winter piping plover surveys for coastal Louisiana with partners from LSU, Barataria Terrebonne National Estuary Project (BTNEP), USFWS and The National Audubon Society.
- Conducted ivory-billed woodpecker searches at Pearl River and Red River WMAs and mist-netting demonstrations at the Grand Isle Migratory Bird Festival and National Hunting and Fishing Day.
- Attended bird point count training and conducted point counts on several WMAs to monitor landbird population responses to timber treatments.
- Completed three U.S. Geological Survey sponsored Breeding Bird Surveys throughout the state.
- Assisted University of Louisiana at Lafayette in capturing, tagging and translocating the federally listed Brown Pelican. Several hundred young pelicans were moved from Raccoon Island to Whiskey Island in hopes of expediting a recolonization of that island.

Nongame Program biologists regularly interacted with the public through school lectures, workshops, field days, conferences and festivals. The Grand Isle Migratory Bird Festival allowed the public to view bird banding activities and provided the opportunity to discuss nongame bird conservation on our state lands. A program display at the American Birding Association National Meeting in Lafayette was well received and showed LDWF's dedication to nongame birds to hundreds of participants.

The Nongame Program represented LDWF on numerous committees and at meetings including the Southeast Partner's in Flight Management Board, the Mississippi Flyway Council

Nongame Technical Committee, the Western RCW Translocation Cooperative, the Western Gulf Coastal Plain Joint Venture, National Audubon Society Important Bird Areas Planning Committee, the Atchafalaya Basin Bird Committee, State Wildlife Grant Committee and the Louisiana Forestry Association Endangered Species and Recreation Committee. Staff also delivered presentations to various user groups regarding nongame resource issues.

In fiscal year 2006-2007, the Nongame Program issued 87 Scientific Collecting permits for research statewide. Also, in late 2006, owners of restricted snakes (constrictors over 12 feet in length, and venomous snakes) were required to obtain permits from LDWF. By the end of the 2006-2007 fiscal year, 18 restricted snake permits had been issued.

The Urban and Nuisance Wildlife unit of the Nongame Program coordinates the permitting and issuance of various nongame permits. Nuisance Wildlife Control Operator permits and Nuisance Animal Control permits are issued by the section to both qualified professionals and to private individuals who are having nuisance wildlife problems and are deemed capable of taking care of those problems on their own. In fiscal year 2006-2007, there were 38 Nuisance Wildlife Control Operators and 11 Nuisance Animal Control permits issued.

The Urban and Nuisance Wildlife unit is also responsible for issuing Wildlife Rehabilitation permits and Special Purpose permits. In fiscal year 2006-2007, 86 Wildlife Rehabilitation permits were issued as well as nine Special Purpose and Possession permits. Countless calls were acted upon by program staff relating to injured wildlife. Such calls often require collecting and transporting injured wildlife and/or coordinating such activities with permitted wildlife rehabilitators or the LSU Veterinary School. Technical assistance was also provided to governmental agencies, non-governmental organizations and to the public.

Geographic Information Systems Program

The Geographic Information Systems (GIS) Program has become increasingly important to the mission of LDWF. The function of this program is to provide mapping and spatial data analysis assistance to all subdivisions of LDWF. That assistance includes creating maps and overlays, data entry and manipulation, and advice to our professional staff on the application of GIS technology.

The GIS program was involved in the following projects and/or production of the following products in fiscal year 2006-2007: updated WMA property boundary maps; created legal descriptions, ownership maps and mapped oil and gas activities on WMAs; produced wildlife and fisheries species maps and habitat maps; converted geospatial data for LDWF staff and cooperating agencies; upgraded software; assisted with updating LDWF's Natural and Scenic Rivers Program webpage; created maps for the Louisiana Wildlife and Fisheries Commission; created an image catalog; created maps for LDWF staff utilizing aerial photography; and provided geospatial data and mapping support to numerous federal, state and local agencies following the 2005 hurricane season.

The GIS Program also represented LDWF on the following committees:

- Louisiana Geographic Information Systems Council (LGISC)
- Gulf Coast Joint Venture (GCJV) GIS Committee Member
- Louisiana GIS Strategic Planning Subcommittee
- Louisiana Emergency Data Committee
- Louisiana Department of Wildlife & Fisheries GIS Council
- Early Detection Rapid Response Committee
- East Gulf Coastal Plain Joint Venture (EGCPJV) Technical Committee.

ALLIGATOR PROGRAM

Louisiana's Alligator Management Program consists of two complex segments: research/management of the wild population and a statewide farm/ranch program. The program is funded by self-generated revenues (alligator hide tag fees, shipping label fees, other alligator related fees and alligator hide severance taxes).

Wild Alligator Program

Inventory methods, harvest regulations, tagging and reporting requirements and a complex computer program are continually upgraded to regulate and monitor a sustainable use alligator management program in Louisiana. Annual coast wide alligator nest surveys are conducted to index alligator populations and to establish harvest quotas in coastal Louisiana. During summer 2006 we estimated that only 20,387 alligator nests were present in the coastal marsh habitat, a dramatic decrease from the previous year (*Figure 1*). Impacts from the devastating hurricanes in 2005 and the subsequent drought in 2006 resulted in reduced nest production throughout coastal Louisiana. Cameron and Vermilion Parishes were particularly impacted with nest production down by nearly 85 percent from 2005.

Louisiana Coastal Marsh Alligator Nest Production: 1970-2006

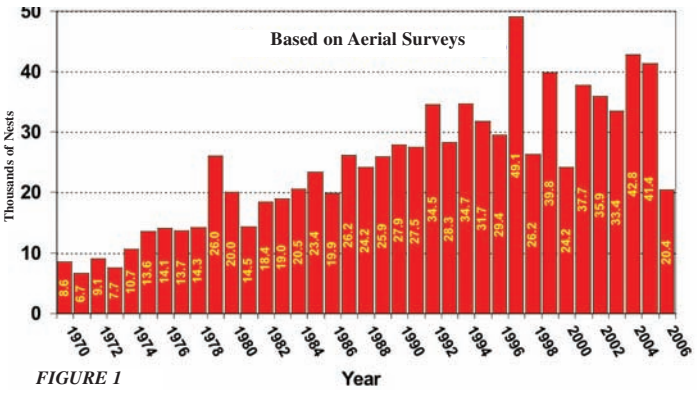


FIGURE 1

Wild alligator harvest quotas are established to correlate harvest with alligator population density and distribution. Alligator harvest tags are allocated to individuals who either own or lease land that is considered alligator habitat. Alligator program staff, with assistance from Graphic Information Systems (GIS) specialists at U.S. Geological Survey (USGS), developed a computer based alligator tag allocation system. Digital landowner and survey information are combined with the latest aerial photography images to allow for an accurate assessment of each participant's property. The majority of the lands enrolled in the wild alligator harvest program have been entered in the system.

In September 2006, the annual wild alligator harvest produced 27,312 alligators, which averaged 7.42 feet in total length, and had an estimated value of over $10.7 million. Harvest numbers were reduced due to lower quotas as dictated by the low nest counts due to severe drought and lingering hurricane habitat alterations. Adult-sized alligators (those six feet and larger) comprised 92 percent of the standard harvest (*Figure 2*).

Louisiana Wild Alligators Harvested, 2006 Regular Harvest Skin Lengths

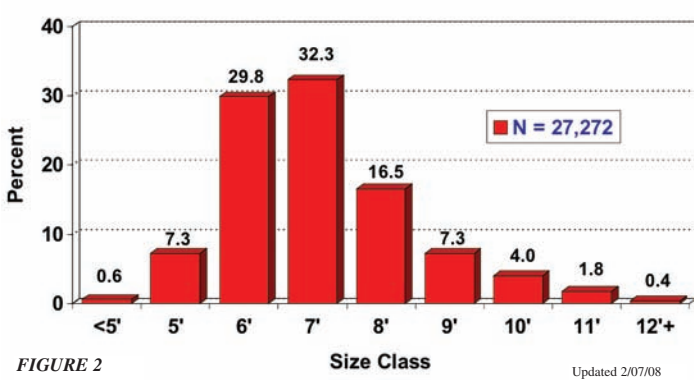


FIGURE 2 Updated 2/07/08

In September 2006, the experimental bonus tag program was continued. This program is designed to harvest four-foot to five-foot alligators which are abundant in the wild alligator population but are not targeted in the standard wild harvest program. Over 3,519 bonus alligators were harvested averaging six feet in length, which were valued at nearly $1.19 million.

Farm Alligator Program

At the end of the 2005 calendar year there were over 50 licensed alligator farms/ranches in Louisiana. The December 2006 statewide farm/ranch inventory was 541,257. The 2005 farm harvest, September 2005-August 2006, was over 256,181 with a base value of $41.5 million. Average length of farm raised alligators was 3.9 feet with 97.6 percent of the harvest comprised of three-foot to four-foot alligators (*Figure 3*).

Louisiana Farm Alligators Harvested, 2005 Skin Lengths

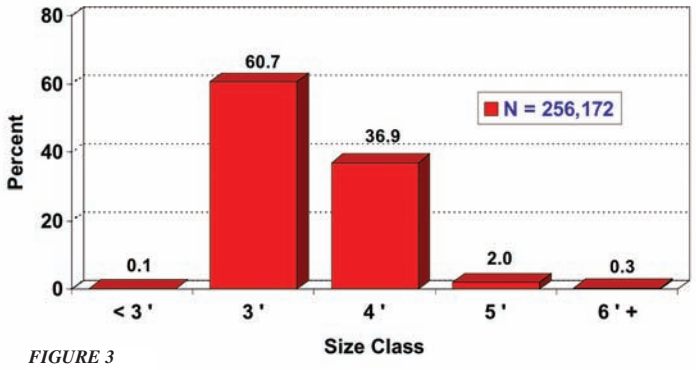


FIGURE 3

During 2006, a total of 739,844 wild alligator eggs were permitted for collection. Due to the severe drought, the worst in 111 years of recorded weather history, only 272,295 eggs were collected from which 225,201 alligators were hatched. Farmers are required to return 14 percent of the hatchlings as four-foot alligators, which compensates for the collection of eggs. The remaining animals can be sold by the farmer. The release in 2006 totaled some 40,740 alligators. All released alligators were measured, marked, tagged and sexed. Survival of farm-released alligators appears to be similar to wild alligators. Several thousand re-trapped alligators were harvested in September 2006, one of which was 12 feet, six inches in length. Data evaluation continues on survival rates of the farm released alligators.

Hurricane Impacts

Coastal Louisiana was impacted by two devastating hurricanes in 2005. Hurricane Katrina struck southeastern Louisiana on August 29, and Hurricane Rita hit southwestern Louisiana on September 24. Massive tidal storm surges inundated coastal marshes with high salinity waters across virtually the entire coast of Louisiana, which is prime alligator habitat. Some direct alligator mortality was observed, but overall long-term impact of these storms on alligator habitat remains to be seen. Direct physical damage to wetlands through scour, scrapes, erosion and rolling has been noted, and high salinities were accentuated by lower than usual winter rainfall after the storms. Storm and drought impacts in Cameron and Vermilion Parishes were severe. Alligator habitats and populations throughout these southwestern Louisiana parishes were particularly stressed during the spring and summer of 2006. Annual coastal nesting surveys conducted in late June and early July 2006 provided additional data on alligator habitat alteration resulting from these hurricanes. Nest production in southwest Louisiana in 2006 was severely impacted as per above, compounded by the severe superimposed drought.

During spring 2007, habitat conditions were greatly improved as compared to the previous year. Surface water levels and interior marsh water salinities have returned to pre hurricane levels. Improved alligator nest production in summer 2007 is anticipated.

Extension

LDWF biologists are actively involved in The World Conservation Union's (IUCN) Crocodile Specialist Group. This requires extensive input on a number of issues concerning international crocodilian management programs. We often host visiting delegates from overseas, including leather industry personnel, researchers and producers.

We established contracts with both the LSU and Florida Schools of Veterinary Medicine to evaluate causes and treatment of hide imperfections in farm-raised alligators. Recent work elucidated the relationship between West Nile virus and LPSA skin lesions, and occurrence of these problems has been greatly reduced. Diagnostic services are available to Louisiana's alligator farmers/ranchers through contracts with the LSU School of Veterinary Medicine (LSUSVM). Department personnel work closely as a liaison between the LSUSVM staff and industry personnel to improve farm alligator health, husbandry and hide quality.

Program staff routinely communicates with various alligator industry participants including hunters, farmers, landowners and dealers. Information is provided regarding wild alligator and alligator egg harvests, harvest statistics and management recommendations. Staff routinely visits alligator farms providing recommendations on alligator husbandry and culture. Numerous requests for information are handled each year. The Alligator Program staff continued production of an informative newsletter to be mailed to alligator industry participants this year which has been well received.

Research Activities

The following list provides a summary of the various research and monitoring projects that the alligator program staff conducted and/or participated in during the 2006-2007 fiscal year.

Monitoring

1. *Evaluation of survival, growth, and reproduction in farm released alligators* - This activity involves numerous projects related to survival analysis, growth and reproductive success (farm-released vs. native wild). Due to the recent reduction to the 14 percent release rate, it is imperative to monitor survival closely. Although some growth information has been published we plan to evaluate growth rates in more detail. We now have "retraps" that were captured 10-15 years since release, and this is undoubtedly one of the largest mark-recapture projects currently in progress. Staff from the LSU Department of Experimental Statistics assists with annual evaluation of survival based on farm "retraps" recovered in September harvests. We are also evaluating dispersal of animals from release sites.

2. *Coastwide nest survey* - The annual coastal nesting survey is essential for monitoring our alligator population, and is used annually to determine wild alligator and wild alligator egg harvest quotas, for the adult harvest each September, as well as egg ranching quotas. This is an integral part of our required "finding of no detriment" needed for export authority. This survey was of particular interest in summer 2006, providing valuable information to evaluate the impact of Hurricanes Katrina and Rita, and the worst drought in 111 years that occurred in fall/winter/spring of 2005-2006.

3. *Evaluation of statewide harvest program* - We continue to closely analyze size class frequency distribution, average size, sex ratios, etc. for alligators harvested each year. This project, coupled with coastwide nest survey, will be continued as long as a harvest program is in place. Data generated from these projects provides the basis for evaluating the impact of our current harvest strategies, and for establishment of annual wild harvest quotas.

4. *Evaluation of alligator nest density* - LDWF biologists work with selected cooperating alligator farmers to gain access to their GPS data from annual egg collections. This study will facilitate comparisons between our coast-wide nest survey and estimates of nest density as recorded by the farmer during egg collections. Some farmers have advised staff of reduced nest production on selected wetlands. This study will allow us to evaluate nest distribution and density changes over time.

5. *West Nile virus (WNV)* - LDWF, in conjunction with LSUSVM, continues to monitor occurrence of WNV on alligator farms in Louisiana. Initial mortality related to WNV occurred in fall/winter 2003. Aggressive mosquito control on farms has reduced on farm mosquito populations and seems to have reduced the incidence of WNV in fiscal year 2006-2007. Studies confirmed that WNV exposure is a predisposing factor in development of "PIX/LPSA" skin lesions.

Contracts

1. *PIX/LPSA etiology - LSUSVM (Dr. Mitchell, Dr. Nevarez)* - This project determined West Nile virus (WNV) is directly implicated in the occurrence of PIX/LPSA skin disease in alligators (funding from USDA/APHIS). Results are published in detail in Dr. Nevarez's PhD dissertation, copies of which were made available to LDWF, which we provided to Louisiana alligator farmers and ranchers.

2. *Evaluate treatment methods to control fungal - PIX (Dr. Paul Cardeilhac)* - Prior work by Dr. Paul Cardeilhac at the University of Florida's School of Veterinary Medicine suggests PIX may be caused by a fungal organism (*H. werneckii*). This project will evaluate treatment methods using copper and chlorine to control fungal-PIX (funding from USDA/APHIS).

3. *Diagnostic services - LSUSVM (Dr. Nevarez)* - Dr. Nevarez and colleagues are on contract to conduct PIX/LPSA research and are to provide diagnostic services as needed for the alligator industry. Farmers may consult with Dr. Nevarez at any time for assistance with any alligator husbandry or disease issue. The work conducted by Dr. Nevarez led to the discovery of West Nile virus in some alligator farms.

4. *LSU Experimental Statistics* - The LSU Department of Experimental Statistics is under contract to provide technical statistical expertise for numerous alligator projects, most importantly the evaluation of survival of farm-released alligators, population trends from nesting survey data and more recently hide grade/length correlations.

5. *Toxicology* - We collaborated with Dr. Val Lance and his colleagues to analyze reproductive failure in captive adult alligators, and a manuscript on these findings was published. Tissue lead levels were evaluated by a graduate student (Master's degree completed), and the lead manuscript written by Dr. Lance with an LDWF biologist as a co-author was published. Another manuscript on laser ablation ICP-MS analysis of the microdistribution of lead in alligator femora was prepared for publication and accepted. We established a new contract with Dr. Lance for further work to determine if any environmental contaminants (heavy metals) exist in wild alligators; preliminary results documented low levels or none detected. Yolk/embryo samples for this project were collected in summer 2005 and 2006, and tissue samples (liver, kidney and muscle) from wild harvested alligators were collected in September 2005 and 2006.

6. *Hurricane effects on alligator physiology* - We initiated a new study to determine the effects of high salinities seen in the marsh after Hurricane Rita, by collecting blood samples from wild alligators to measure stress hormone (plasma corticosterone) and electrolytes (sodium, potassium, chloride) and osmolality, as well as general body condition and behavior of the alligators. The superimposed drought in winter of 2005-2006 will make interpretation of results difficult. A manuscript was prepared by LDWF staff and presented by Dr. Lance at the IUCN's Crocodile Specialist Group Meeting in Montlimar, France in June 2006; updated findings are being prepared to submit for publication in the scientific literature.

7. *Evaluate the health status of farm released alligators* - The results of this study will provide information regarding the general health of captive alligators, and can be used to develop better captive husbandry protocols. Establishing a disease surveillance program for captive-reared alligators will place the industry closer

to the standards of other intensive animal operations such as the swine, cattle and poultry industries. In spring 2007 we began initial collections of random samples of release alligators from several commercial alligator farms for full health surveillance workups by Dr. Nevarez.

8. *Determine the use of antibiotics on alligator farms in Louisiana and determine the pharmacokinetic disposition and tissue distribution of tetracycline after single-dose administration* - This project will provide important information regarding the use of antibiotics on alligator farms in Louisiana and the pharmacokinetics and tissue distribution of an important antibiotic (tetracycline) used for alligators. This information can be used by veterinarians and alligator ranchers to determine appropriate antibiotic treatment regimens for captive animals with susceptible infections. This research will also provide much needed information regarding the elimination of this antibiotic from the alligators.

Publications/Cooperative Research

The following scientific papers were published from approximately July 2006-June 2007:

Elsey, R. M. 2006. Food habits of *Macrochelys temminckii* (Alligator Snapping Turtle) from Arkansas and Louisiana. *Southeastern Naturalist*. 5(3):443-452.

Scott, N. M., M. F. Haussmann, R. M. Elsey, P. L. Trosclair III, and C. M. Vleck. 2006. Telomere length and body length in *Alligator mississippiensis*. *Southeastern Naturalist*. 5(4):685-692.

Sweazea, K., J. McMurtry, R. M. Elsey, and E. Braun. 2006. (Abstract). Avian and reptilian plasma glucose and ketone body levels. American Physiological Society meeting. October 2006, Virginia Beach, Virginia.

Bagwill, A., D. Sever, D. Gist, and R. M. Elsey. 2007. Seasonal oviductal ultrastructure of the American alligator: sperm storage as a reproductive tactic. (Abstract). Presented at the Third International Workshop on Crocodilian Genetics and Genomics. Panama City, Panama. April 2007.

Dacke, C. G., R. M. Elsey, P. L. Trosclair, III, and M. H. Schweitzer. 2007. Calcium metabolic strategies in egg-laying crocodilian (*Alligator mississippiensis*) archosaurs. (Abstract). 17th Scientific Meeting of the International Bone and Mineral Society. Montreal, Canada. June 2007. Bone. 40:S102-107, CE06.

Lance, V. A., R. M. Elsey, and L. Bergschneider. 2007. Heavy metal burdens in Louisiana alligators. (Abstract). Presented at the Third International Workshop on Crocodilian Genetics and Genomics. Panama City, Panama. April 2007.

Nevarez, J., N. Kinler, and R. M. Elsey. 2007. The Louisiana alligator industry: a review of the history and current management techniques of alligator ranches in Louisiana. (Abstract). Proceedings of the annual conference of the Association of Amphibian and Reptilian Veterinarians. New Orleans, April 14-18, 2007.

Reno, P. L., W. E. Horton, Jr., R. M. Elsey, and C. O. Lovejoy. 2007. Growth plate formation in alligator and mouse metapodials: evolutionary and functional implications. JEZ (Mol Dev Evol) 308B: 283-296.

Schweitzer, M. H., R. M. Elsey, C. G. Dacke, J. R. Horner and E. T. Lamm. 2007. Do egg-laying crocodilian (*Alligator mississippiensis*) archosaurs form medullary bone? Bone. 40: 1152 -1158.

Sweazea, K. L., J. P. McMurtry, R. M. Elsey, P. Redig, and E. J. Braun. 2007. (Abstract). Hormonal control of metabolic substrate use by birds and reptiles. Poster presented at the FASEB meeting, Washington D.C., April 28 - May 2, 2007.

Several cooperative studies were undertaken or continued in fiscal year 2006-2007 with university researchers to further the understanding of alligator physiology and husbandry, including:

- Studies on seroprevalence of WNV in wild alligators
- Studies on glucose metabolism and leptin (an indicator of adiposity) in alligators.
- Evaluation of ultrastructure of the female alligator reproductive tract (graduate student at Southeastern Louisiana University)
- Studies on regulatory mechanisms of development of the cardiopulmonary system in alligators
- Studies on the development of the brain, musculoskeletal system and dental system in hatchling alligators, and how oxygen levels affect development

Office of Fisheries

The Office of Fisheries is comprised of two divisions, Marine Fisheries and Inland Fisheries.

Marine Fisheries Division

The Marine Fisheries Division is charged with management of the full range of Louisiana's estuarine and marine resources. Division responsibilities are categorized as Fisheries Management Programs and Habitat Protection Programs. Participation in numerous local, state, regional, national and international committees, task forces and councils provides professional expertise in the development of state and federal regulation, legislation and standards governing the wise use of renewable natural resources.

Inland Fisheries Division

The Inland Fisheries Division manages fish populations and habitats for the conservation and improvement of sport and commercial fishing primarily in freshwater areas of the state. Division responsibilities are divided into two major categories: Fisheries Management and Aquatic Habitat Management.

MARINE FISHERIES

THE HURRICANES OF 2005

The 2005 hurricanes Katrina and Rita impacted the entire Louisiana coastline and its fisheries. These fisheries have social, cultural and economic facets which make them an extremely valuable resource for the state. The oyster and menhaden fisheries, which experienced severe losses immediately after the storms, were especially devastated. The shrimp, crab and other saltwater finfish fisheries showed losses as well. These losses were in catch, landing and/or participating vessels able to take fishing trips. Commercial and recreational fishing trips declined sharply after the storms due to shore-side facility and habitat damage. Also damaged by the storms were all Marine Fisheries Coastal Study Areas.

Our goal is to continue to address the needs of coastal fishery resources, commercial and recreational fishing industries, fishing communities and fishermen of Louisiana. These efforts are aimed at repairing damages to Louisiana fishing caused by the 2005 hurricanes by restoring fisheries. This restoration includes reseeding, rehabilitating and restoring oyster reefs, rehabilitating oyster bed and shrimp grounds and conducting cooperative research to monitor the recovery of Gulf fisheries as illustrated by programs detailed in this report.

Public Law 109-234

In response to the hurricanes of 2005, Congress authorized its first fishery disaster relief in June 2006 (Public Law 109-234). On August 25, 2006 the U.S. Department of Commerce announced the issuing of a grant to the Gulf States Marine Fisheries Commission to aid Louisiana, Mississippi, Alabama, Texas and Florida in rebuilding fisheries. The National Oceanic and Atmospheric Administration granted funds to the Gulf States Marine Fisheries Commission for further subgrant to the Gulf coast states. Louisiana's subgrant awards are:

- OR-RRR-020-2006-01 entitled Reseeding, Rehabilitating and Restoring Oyster Reefs (Job 1).
- OB-SGR-021-2006-01 entitled Rehabilitating Oyster Bed and Shrimp Grounds (Job 2).
- CR-M-022-2006-01 entitled Cooperative Research to Monitor Recovery of Gulf Fisheries (Job 3).

Following the passage of hurricanes Katrina and Rita, fishermen from across the coast formed the Louisiana Fishing Communities Rebuilding Coalition and identified funding priorities for the recovery of Louisiana's commercial and recreational fisheries. Priorities, including debris removal and the evaluation of the status and health of natural resources, are addressed by this congressional appropriation.

Authorized purposes and funding categories of P.L. 109-234:

1. ***Reseeding, rehabilitating and restoring oyster reefs*** - Surveys of public oyster seed grounds and seed reservations; public and private oyster reef rehabilitation, including sediment/debris removal and reef building; biological/ environmental monitoring on the public grounds
2. ***Rehabilitating oyster beds and shrimp grounds*** - Documenting and removing underwater obstructions/wet debris; projects to restore marine species access to impounded areas and to demonstrate use of oyster reef to protect shorelines
3. ***Cooperative research to monitor recovery of gulf fisheries*** -
   a. Monitoring recovery of fishing industries; surveying licensed fishermen, dealers and processors to document and report debris on the fishing grounds; characterize present fishing operations and collect investment costs, operating costs, handling and storage capacity; perceived problems facing the industry and opinions on various management practices and other operation characteristics; recreational fishery surveys.
   b. Funding for fishery-independent data collections to monitor recovery of Gulf fishery stocks.

Projects will be auditable and accountable. It is the intention of LDWF to include local fishing community participants and create partnerships with parishes or other local entities to determine the best use of local resources and what is most beneficial to communities and fisheries. General planning meetings were held among project staff on a regular and continuing basis throughout the planning and implementation period. Scoping and planning meetings were held with state and federal agencies and representatives of the fishing industries to identify needs and opportunities. A contract was signed with a professional accounting corporation to implement fiscal and accounting processes and controls for management of grant activities.

Job 1: Reseeding, Rehabilitation and Restoration of Oyster Grounds

Private Oyster Resource Reseeding, Rehabilitation and Restoration:

- Work on private oyster leases to restore their productivity conducted under a mutually agreed upon Cooperative Endeavor Agreement to:
  - Clean up privately-leased oyster growing areas to remove sediments and debris deposited over oyster reefs by hurricanes.
  - Provide cultch material for private oyster leases for oyster bed rehabilitation and restoration.
  - Resurvey and re-mark leases impacted by the hurricanes as required under Louisiana statute.
  - Offset expenses associated with Louisiana Department of Health and Hospitals (LDHH) oyster relay permit requirements.
- Assist in re-establishing LDHH water quality sampling and laboratory function.
- Develop native stock oyster hatchery through the LDWF Marine Research Laboratory on Grand Isle for spawning and rearing polyploid and Dermo-resistant oysters.
- Implement a records management and archiving system for oyster leasing records to maintain permanent storm-proof records.
- Monitoring private oyster resource reseeding, rehabilitation and restoration by the state to ensure accountability.

Public Oyster Resource Reseeding, Rehabilitation and Restoration:

- Surveys of the public oyster areas to map and mark size and location of reefs and bottom type.

- Deposit suitable cultch over public oyster areas to replace storm-damaged reefs. Approximately 80,000 cubic yards of cultch would be deposited over 500 acres of water bottoms on public oyster seed grounds and reservations.
- Monitor oyster recruitment, development, growth and harvest activity on public seed grounds.

Status

Private Oyster Resource Reseeding, Rehabilitation and Restoration:

- Leaseholder pre-application period held December 29, 2006 through May 17, 2007.
- Audit and accountability processes are being implemented.
- Leaseholder agreements signed at meetings in Belle Chasse (May 25), Houma (May 30), Baton Rouge (June 8) and Chalmette (June 11).
- Leaseholder rehabilitation activities have begun.
- Shellfish sanitation contracts, hatchery plans and lease record RFP are under development and scheduled for implementation by fall 2007.

Plans and details have been developed for the Private Oyster Lease Rehabilitation (POLR) program designed to provide reimbursement assistance to private leaseholders for the performance of rehabilitation activities on privately-leased water bottoms. Rehabilitation activities available to the leaseholder under the POLR program include:

- sediment/debris removal.
- cultch deposition.
- resurveying/remarking of leases.
- relaying of oysters.
- bedding (i.e., transplanting) of oysters.
- replacement of lost/damaged lease records.

A contract was signed with South Central Planning and Development Commission to act as agent for LDWF to receive POLR and other reimbursement requests from leaseholders and fishery participants, and enter and verify data according to fiscal and accounting processes and controls developed by Postlethwaite & Netterville.

The program will reimburse participating leaseholders (contracting parties) for costs associated with rehabilitation activities up to a qualifying amount provided that the leaseholder supply supporting evidence that documents the rehabilitation activities were performed.

The POLR program has been developed with strict audit and accountability measures and has required that participating leaseholders sign a Cooperative Endeavor Agreement with LDWF. This agreement outlines the terms of the POLR program and the amount of reimbursement the leaseholder qualifies to receive (upon the delivery of appropriate supporting documentation). In essence, the leaseholder signs the agreement, travels to his leases and performs the rehabilitation activities, submits a reimbursement request along with appropriate supporting documentation and is then reimbursed for his associated costs (certain limits do apply, i.e. daily vessel rates, etc.).

Leaseholders began signing POLR agreements on May 25, 2007 when LDWF held the first of four public meetings with participating leaseholders. At these meetings, leaseholders proceeded through three stations in order to 1) receive general information about the program, 2) check documents showing person has the legal right to sign the agreement for the leaseholder and 3) sign the POLR agreement. In addition to the four public meetings, LDWF has scheduled numerous one-on-one interviews with participating leaseholders for the purpose of signing POLR agreements.

To date, approximately 500 leaseholders have signed POLR agreements and many leaseholders have begun rehabilitation activities on their leases. Each leaseholder is required to call a toll-free number prior to performing rehabilitation activities to notify LDWF that activities are occurring. Many participating leaseholders have been performing sediment and debris removal, along with other rehabilitation activities such as cultch planting and oyster relaying. The toll-free call center provides a call-in report to LDWF each morning at 8:30 a.m. and then again each afternoon at 4:30 p.m. From these call-in reports, LDWF can schedule field monitoring of activities.

Reimbursement payments will be made to participating leaseholders based on documented rehabilitation activities performed by the leaseholder.

Plans have been developed to monitor the POLR program as described above. LDWF Marine Fisheries field staff members are being trained to assist with and to perform random field inspections of POLR-related rehabilitation activities. Office staff collect call-in rehabilitation reports from the toll-free call center, determine where rehabilitation work will occur and distribute information electronically to field staff for field monitoring purposes. Field staff performs monitoring. On dedicated field monitoring days, field staff will perform field work with the main goal of monitoring and documenting POLR activities. During non-dedicated field work, field staff will document POLR activities when a POLR vessel is encountered during the normal course of field work.

LDHH water quality sampling and laboratory function

A contract with LDHH was executed during the previous reporting period. LDHH provided a project progress report to LDWF during this reporting period. LDHH and Louisiana State University (LSU), Coastal Studies Institute entered into a contract to create a Panchromatic-TM Merge satellite image. Laboratory equipment was ordered in March and April 2007. Four boats and outboard motors were ordered.

Native stock oyster hatchery

Plans are being developed to incorporate a native oyster hatchery at the LDWF Marine Lab on Grand Isle, La. This laboratory is currently under construction. Input on the hatchery design has been received from researchers from academic institutions within Louisiana, most notably from LSU researchers who have extensive oyster hatchery experience.

Oyster lease data and records management

A draft request for proposals (RFP) to develop a data and records management system has been developed. The system will provide for system security, backup and recovery of digital records, an integrated searchable database and metadata generation, and will integrate physical and electronic records, organizing them and

storing critical information in a digital repository. This will give staff the ability to quickly capture, preserve and share information critical to resource management, and insure safety and security of the 103 year oyster lease database and the long-term accessibility and usability of the oyster leasing records by:

- converting paper and cloth lease survey records, maps, plats and other information to microfilm and creating a digital image record of all the above information.
- creating an integrated file management system to make the records more readily accessible.
- updating and improving system data dictionary.

Public Oyster Resource Reseeding, Rehabilitation and Restoration

Side scan sonar surveys of public oyster grounds

Evaluation of the Louisiana Oyster Resource Improvement (LORI) project water bottom data occurred during this reporting period, and that data was used to plan cultch planting locations. In addition, preliminary plans for additional survey assessments were reviewed.

Cultch placement on public oyster grounds

Cultch planting specifications were developed and a bid package was published during a previous reporting period, and the winning bid for reef rehabilitation (cultch planting) was awarded to Pontchartrain Materials Corporation (PMC) during this reporting period. The permitting process for the rehabilitation projects was also finalized during this reporting period.

Rehabilitation activities in two areas of the public oyster grounds east of the Mississippi River were accomplished by PMC with close, daily oversight and guidance by LDWF biologists. A 200 acre location of suitable water bottoms was selected in Black Bay and in Mississippi Sound, and approximately 30,000 cubic yards of limestone and crushed concrete (cultch material) was spread thinly on the bottom at each location. These locations were identified and selected based on water bottom data supplied by a previous federal hurricane disaster project, the LORI project identified above. LDWF biologists, vehicles and vessels participated in these two projects.

A media day was scheduled and held on June 5, 2007 at the Rigolets Marina in Slidell, La. (home marina for the Mississippi Sound cultch plant) to provide information to the media and public concerning the rehabilitation efforts.

The schedule and experimental design for biological monitoring of cultch plants is being developed. Biological sampling is being developed to track the development trajectory of oyster resources on the rehabilitated reefs.

Job 2: Rehabilitating Oyster Bed and Shrimp Grounds

Underwater Obstructions / Wet Debris Removal

- Use NOAA maps and other data to identify underwater obstructions on fishing grounds.
- Fund enhancement of the state underwater obstruction removal program. Subcontract to involve fishermen, vessel owners, wholesale seafood buyers and seafood processors. Potential procedures include:
  - Documenting wet debris - pay for location information for significant underwater obstructions.
  - Debris removal - fund underwater obstruction removal. Pay to bring small debris found while fishing to specified onshore collection sites and restore fish habitat.
  - Expand scope of the state fisherman's gear compensation fund program for loss of fishing gear due to wet debris.

Oyster Bed and Shrimp Ground Rehabilitation:

- Construct and monitor projects to manage for waterfowl and marine access to marsh impoundments and to demonstrate use of cultch to protect shoreline.
- Re-establish the LDWF Research Laboratory function.
- Improve LDWF data management system to monitor Gulf fisheries recovery.

Status

Underwater Obstructions/Wet Debris Removal

Identifying underwater obstructions on fishing grounds

LDWF worked with other state and federal agencies using data and maps provided by NOAA and others to identify underwater obstructions which are fouling the fishing grounds or access channels for fishing vessels.

Enhancing state underwater obstruction removal program

The LDWF received approval from the Division of Administration, State Office of Contractual Review for an inter-agency agreement with the Louisiana Department of Natural Resources (LDNR) Office of Conservation for a contract for marine debris removal.

Debris removal

The LDWF received approval from the Division of Administration, Office of State Purchasing for a contract awarded to Crowder-Gulf Joint Venture, Inc. for marine debris removal in state waters using fishing industry participants for the removal and proper disposal of debris items within designated waters. Contract work is scheduled to begin July 9, 2007 within 40 square miles of Lake Borgne water bottom and focus on debris located through side scan sonar surveys funded by NOAA's Office of Coast Survey.

Oyster Bed and Shrimp Ground Rehabilitation

- *Coastal habitat rehabilitation and enhancement* - Planning activities to implement the task were conducted. We have begun the preliminary library work to develop the RFP.
- *Re-establish LDWF Marine Research Laboratory function* - Planning activities to implement the task were conducted.

LDWF Marine Fisheries Data Management System Improvements

Upgrade server, data entry system and software for data input, storage and analysis

Discussion continues in-house on the feasibility of SAS and alternate data management statistical software options. Planning activities to implement the task were conducted. We have begun the preliminary library work to develop the RFP.

Job 3: Cooperative Research to Monitor Recovery of Gulf Fisheries

- Conduct surveys of participants in recreational and commercial fisheries to characterize industry operations and document historical and current status to determine impacts of 2005 hurricanes, including:
  - commercial fishery participants.

  - licensed commercial for-hire captains and fishermen.
  - commercial shrimp, oyster and crab industry, including dealers and processors.
  - Seafood dealers and processors.
  - Recreational fishery.
- Monitoring recovery of commercial fisheries by analyzing impacts and geographic shifts in landings and analyze where the impacts occurred and how the fishermen, vessel owners, wholesale seafood buyers and seafood processors responded, and the timetable on which dealers and fishermen started back operating in different areas.
- Fishery-Independent Monitoring of the Gulf Fishery Stocks by monitoring abundance, available sizes and growth rates of the stocks of Gulf fishery species in relation to habitat characteristics and known impact to habitat resulting from the storms.
- Enhance collection of data for monitoring recovery of Louisiana fisheries through repair of public shore side fisheries facilities in hurricane-impacted parishes.

Status

General planning meeting were held among project staff on a regular and continuing basis throughout the reporting period. Scoping and planning meetings were held with state and federal agencies and representatives of the fishing industries to identify needs and opportunities. Discussions were held with the Louisiana Charterboat Association regarding hosting a debris-reporting website for charter captains.

Cooperative Research to Monitor Recovery of Gulf Fisheries

Survey commercial fishery participants to characterize present fishing operations at the harvester level

A set of questions were developed to accompany the supplemental trip ticket form developed (collect trip level effort and economic information from shrimp, crab and oyster industry through surveys logbooks and observers, *see below*). Participants who sign up for the supplement trip ticket program will be required to answer the set of question developed prior to being able to participate in the program. The set of questions is in review by the administration.

Log-book program for licensed commercial for-hire captains and fishermen

A draft Log-book developed in a previous quarter was modified to a survey format to collect hurricane impacts on the economics and business aspects of the for-hire industry. The form is in review by the administration, and the staff is meeting on possible out-reach meetings to the industry for their input. Last quarter, the Louisiana Charter Boat Association (LCBA) agreed to help form a focus group to help finalize the survey.

Survey commercial shrimp, oyster and crab dealers and processors to collect investment costs, operating costs, handling and storage capacity, perceived problems facing the industry and opinions on various management practices, as well as other operation characteristics

The staff continues to develop the list of questions for the survey.

Monitoring the recovery of commercial fisheries using trip-ticket data

Historic data from the trip ticket database has begun to be tabulated and analyzed to establish baselines and trends for individual dealers and fishermen. The baseline and trend data will be used to gauge the impact of the hurricanes and subsequent recovery.

Collect trip level effort and economic information from the shrimp, crab and oyster industry through surveys, logbooks and observers

The draft supplemental trip ticket form was refined and circulated in-house. The form would be filled out by fishermen and turned in to dealers at the first point of sale. The form includes space for the fisherman to record number of and types of gear set, detailed area fished information, number of hours gear fished, quantity and type of bait, fuel, operating costs per trip and a space to record the location of any debris encounters on the trip. The information for this task and the task for survey commercial fishery participants to characterize present fishing operations at the harvester level will be collected under the same program. The form is in review by the administration and the staff is meeting on possible out-reach meetings to the industry for their input.

Log-book program for for-hire captains to report debris on fishing grounds

After considering recommendations from the accounting firm on processes and controls, the staff decided not to go for a log-book reporting system for debris from for-hire captains. It was determined that an on-line system would be better suited for the collection of debris information.

LDWF would supply the on-line reporting program and would contract for advertising and maintaining the program. LDWF developed a draft scope of services to administer, advertise, maintain and deliver debris reports. Work continues on the debris reporting software and contracts.

Survey the recreational fishery

The staff continues to plan development of the recreational fishery survey.

Fishery-Independent Monitoring of the Gulf Fishery Stocks

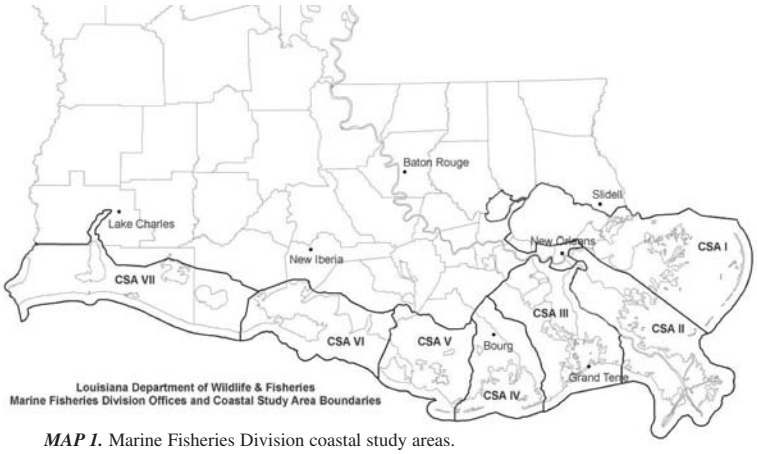
The contract was developed to include some specific fishery dependent work which will provide additional information about the crab fishery in Lake Pontchartrain.

FISHERIES MANAGEMENT PROGRAMS

Fisheries Management Programs include Shellfish Management, Mollusc Management and Finfish Management. In addition to headquarter operations, division responsibilities are conducted through seven coastal study areas and the Lyle S. St. Amant Marine Laboratory (*Map 1*).

Shellfish Management

The Marine Fisheries Division continued its long-term trawl sampling program throughout coastal Louisiana. Fishery biologists collected 773 six-foot trawl and 1,379 16-foot trawl samples from both inshore and offshore waters in each of seven coastal study areas. Data from these samples were used to recommend season frameworks for both the fall and spring inshore shrimp seasons and winter territorial sea shrimp seasons. In addition, these same data were used to recommend season extensions, special seasons and provide recruitment indices for Gulf menhaden and blue crabs.



MAP 1. Marine Fisheries Division coastal study areas.

Shrimp

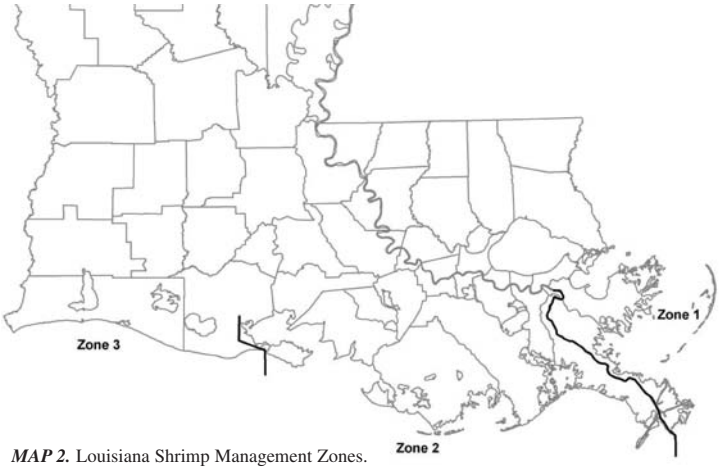
Shrimp are this state's most valuable commercial fishery and Louisiana continues to lead the nation in shrimp landings. Louisiana shrimp landings in 2006 totaled approximately 86.4 million pounds (all species combined/heads-off weight) and accounted for $144.8 million in dockside sales. White shrimp landings were the highest on record (55.5 million pounds) and exceeded the long-term mean (31 years) by 24.4 million pounds.

Due to significant differences in patterns of shrimp recruitment, growth and immigration between geographic areas, the Louisiana coast has been divided into three Shrimp Management Zones to better manage the resource (*Map 2*). Shrimp management recommendations are listed below by zone.

Zone 1 - Mississippi-Louisiana state line to the eastern shore of South Pass of the Mississippi River.

Zone 2 - Eastern shore of South Pass of the Mississippi River to the western shore of Vermilion Bay and Southwest Pass at Marsh Island.

Zone 3 - Western shore of Vermilion Bay and Southwest Pass at Marsh Island to the Louisiana-Texas state line.



MAP 2. Louisiana Shrimp Management Zones.

Shrimp Management Recommendations

Shrimp Management Zone 1

2006 - Spring Inshore Shrimp Season

- Opened at 12 p.m. on May 15, 2006 except for the open waters of Breton and Chandeleur Sounds as described by the "double-rig line" in LA R.S. 56:495.1(A)2 which opened at 12 p.m. on May 8, 2006
- Zone I closed at official sunset on July 5, 2006 except for that portion of Mississippi Sound originating at a point along the Mississippi-Louisiana state line at 30 degrees 09 minutes 39.6 seconds north latitude and 89 degrees 30 minutes 00 seconds west longitude thence southeastward to the U.S. Coast Guard navigational light off the eastern shore of Three-Mile Pass at 30 degrees 03 minutes 12 seconds north latitude and 89 degrees 21 minutes 30 seconds west longitude thence northeastward to a position which intersects the "double-rig line" north of Isle au Pitre at 30 degrees 10 minutes 00 seconds north latitude, and the open waters of Breton and Chandeleur Sounds as described by the "double-rig line."
- The open waters of Breton and Chandeleur Sounds remained open to shrimping until 6 a.m. March 31, 2007.

2006- Fall Inshore Shrimp Season

- Opened at 12 p.m. on August 21, 2006
- Closed December 19, 2006 at official sunset except for the open waters of Breton and Chandeleur Sounds which remained open to shrimping until 6 a.m. March 31, 2007.

2007 - Spring Inshore Shrimp Season

- Opened at 12 p.m. on May 28, 2007.
- Closed July 5, 2006 at 6 p.m. except for the open waters of Breton and Chandeleur Sounds as described by the "double-rig line."

Shrimp Management Zone 2

Offshore territorial waters south of the inside/outside shrimp line from the eastern shore of Freshwater Bayou Canal at 92 degrees 18 minutes 33 seconds west longitude to the U.S. Coast Guard navigational light off the northwest shore of Caillou Boca at 29 degrees 03 minutes 10 seconds north latitude and 90 degrees 50 minutes 27 seconds west longitude were closed to shrimping at 6 a.m. on January 8, 2007.

Offshore territorial waters south of the inside/outside shrimp line and east of the Atchafalaya River Ship Channel at Eugene Island as delineated by the river channel red buoy line to the U.S. Coast Guard navigational light off the northwest shore of Caillou Boca at 29 degrees 03 minutes 10 seconds north latitude and 90 degrees 50 minutes 27 seconds west longitude reopened to shrimping April 17, 2007 at 6 a.m.

Offshore territorial waters south of the inside/outside shrimp line and west of the Atchafalaya River Ship Channel at Eugene Island as delineated by the river channel buoy line to the western shore of Freshwater Bayou Canal at 92 degrees 18 minutes 33 seconds west longitude reopened to shrimping at 12 p.m. on May 14, 2007.

2006 - Spring Inshore Shrimp Season

- Opened at 12 p.m. on May 4, 2006
- Closed at 6 a.m. on June 19, 2006

2006 - Fall Inshore Shrimp Season

- Opened at 12 p.m. on August 14, 2006 in that portion of Zone 2 from the eastern shore of South Pass of the Mississippi River to the Atchafalaya River Ship Channel at Eugene Island as delineated by the channel red buoy line.
- Opened at 12 p.m. on August 21, 2006 in the remainder of Zone 2.
- Closed at official sunset on December 19, 2006.

2007 - Spring Inshore Shrimp Season

- Opened at 12 p.m. on May 14, 2007.
- Closed at one-half hour before sunrise on June 25, 2007 in that portion of Zone 2 extending from the Atchafalaya River Ship Channel At Eugene Island as delineated by the Channel red buoy line to the western shore of Vermilion Bay and Southwest Pass at Marsh Island.
- Closed at 6 p.m. on June 30, 2007 in remaining portion of Zone 2

Shrimp Management Zone 3

2006 - Spring Inshore Shrimp Season

- Opened at 12 p.m. on May 22, 2006.
- Closed at 6 a.m. on July 17, 2006 except for that portion of the Calcasieu Ship Channel originating at a line between Channel Markers 85 and 86 southward to a point originating along the inside/outside shrimp line at Calcasieu Pass as described in LA R.S.56:495(A) and including East Pass from its origin at the Calcasieu Ship Channel to the south end of Calcasieu Lake and West Pass from its origin at the Calcasieu Ship Channel to the south end of West Cove.
- Remainder of Zone 3 closed at 6 a.m. on July 26, 2006.

2006 - Fall Inshore Shrimp Season

- Opened at 12 p.m. on August 21, 2006
- Closed at official sunset on December 19, 2006

2007 - Spring Inshore Shrimp Season

- Opened at 12 p.m. on May 28, 2007
- Closed at 6 p.m. on June 30, 2006 except for that portion of the Calcasieu Ship Channel originating at a line between Channel Markers 85 and 86 southward to a point originating along the inside/outside shrimp line at Calcasieu Pass as described in LA R.S.56:495(A) and including East Pass from its origin at the Calcasieu Ship Channel to the south end of Calcasieu Lake and West Pass from its origin at the Calcasieu Ship Channel to the south end of West Cove.
- Remainder of Zone 3 closed on July 7, 2007

Commercial shrimp landings since 1976 have ranged from a high of 93.7 million pounds reported in 1986 to 49.4 million pounds landed in 1983 (*Figure 1*). Brown shrimp landings in 2006 and 2007 were greatest during May followed by June and July while white shrimp production peaked in November 2006 at 13.3 million pounds. Seabob landings were highest during late fall and early winter (*Figure 2*).

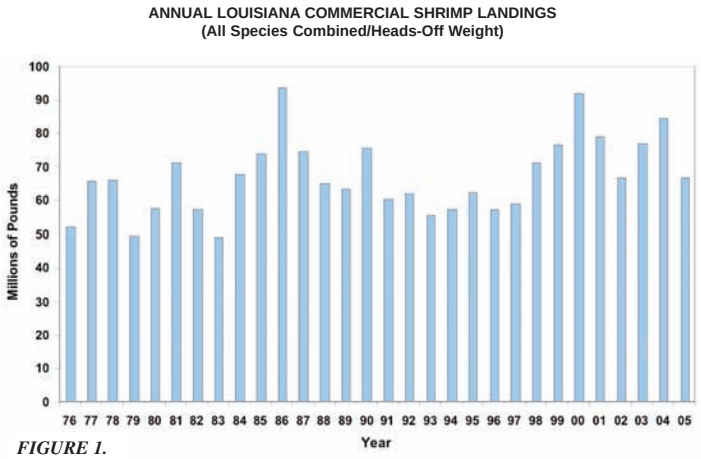


FIGURE 1.

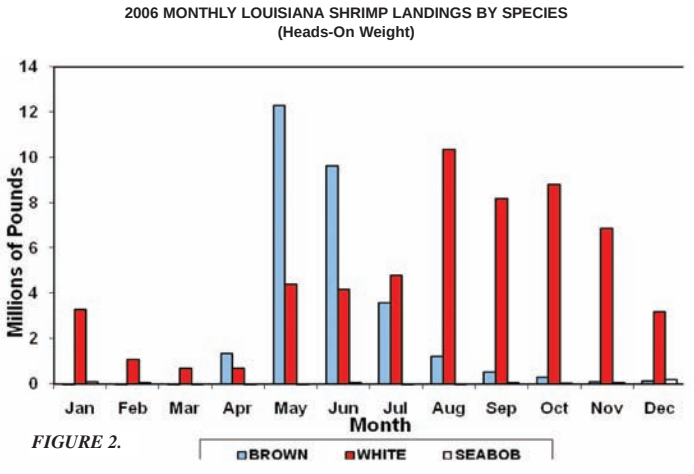


FIGURE 2.

Federal Aid Projects

The Marine Fisheries Division has continued the administration of an $8.68 million federal grant (Louisiana Shrimp Fisheries Disaster Assistance Grant - NOAA/DOC Award No. NA03NMF4520310). The grant activities, which included providing economic assistance to commercial shrimp fishers who have a demonstrated record of compliance with turtle excluder and bycatch reduction device regulations, incentives to commercial shrimp fishers to ensure widespread and proper use of turtle excluder and bycatch reduction devices in the fishery and personal assistance to commercial shrimp fishers, have been completed. Activities related to the promotion and marketing of wild caught Louisiana shrimp and the initiation of a quality certification and marketing program in conjunction with the Southern Shrimp Alliance continue.

The Marine Fisheries Division has also continued the administration of a $144,128 federal grant (Interjurisdictional Assessment and Management of Louisiana Coastal Fisheries - NOAA/DOC Award No. NA03NMF4070125). The objective of the Interjurisdictional Fisheries Project was to maintain a coast-wide monitoring program for parameters relevant to important fisheries resources, including both population dynamics and associated hydrological and environmental parameters, and to use information gathered to make rational management decisions. Technical, biological and hydrological data gathered from the monitoring program were utilized in establishing seasonal frameworks within the shrimp and oyster fisheries, predicting annual gulf menhaden (*Brevoortia patronus*) abundance and providing data for the management of groundfishes and blue crabs (*Callinectes sapidus*). These data have provided estimates of size, density and growth of juvenile penaeid shrimp on the nursery grounds and staging areas, movement of sub-adult shrimp from the nursery grounds to staging areas and the abilities to correlate juvenile shrimp response and subsequent production to hydrologic conditions. Data collected from the monitoring program were crucial in establishing opening and closing dates for shrimp seasons within Louisiana inside and outside territorial waters during fiscal year 2006-2007. Hydrological and biological data collected on oyster recruitment (spat set) and oyster density and availability estimates were used in formulating management recommendations regarding the oyster season on the public oyster seed grounds and seed reservations. Harvest estimates were determined from boarding report surveys of boats fishing the

public seed grounds and seed reservations. These data were compared with annual stock availabilities and previous production estimates calculated during fiscal year 2006-2007.

Crabs

Louisiana commercial blue crab landings for 2006 totaled approximately 52.8 million pounds and had a dockside value of approximately $31.8 million. Blue crab landings represent a 28 percent increase from 2005 landings of approximately 37.9 million pounds (*Figure 3*). Low prices associated with increased foreign imports of crabmeat remain a major issue in the fishery.

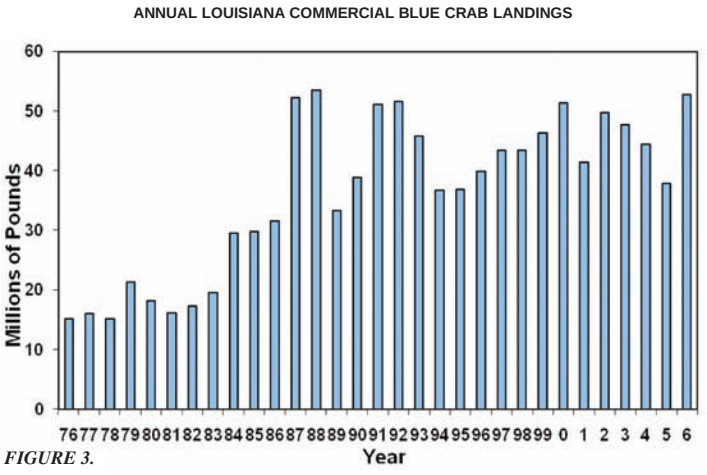


FIGURE 3.

Stone crab landings for 2006 were 1,635 pounds valued at $4,183 dockside. Stone crab landings increased approximately 60 percent from the 2005 landings of 649 pounds. The stone crab fishery in Louisiana is not a directed fishery and stone crabs are primarily taken as incidental bycatch within the blue crab fishery. Variations in annual stone crab landings are primarily due to salinity levels with higher abundance associated with dry years.

Abandoned Crab Trap Removal Program

The major Marine Fisheries Division activity related to blue crabs in fiscal year 2006-2007 was the removal of derelict crab traps from coastal waters under the Abandoned Crab Trap Removal Program. Legislation introduced by LDWF in 2003 gave the Wildlife and Fisheries Commission the authority to establish a derelict crab trap removal program (*Table 1*).

Disposal Site	Recreational		Commercial		LDWF		Other Agency/ University		Total	
	Traps	Boat Days	Traps	Boat Days	Traps	Boat Days	Traps	Boat Days	Traps	Boat Days
Lake Pont.	217	11	0	0	447	9	110	2	774	22
Barataria	0	0	10	1	657	7	57	2	724	10
Total	217	11	10	1	1,104	16	167	4	1,498	32
% Traps Collected	14.5%		35%		0.7%		11.1%			

TABLE 1. Results from 2006-2007 Derelict Crab Trap Removal Program.

Funding for the 2007 crab trap clean up came from increases in recreational and commercial crab trap gear license fees statutorily dedicated to support the abandoned crab trap removal program. Two winter trap closures and clean-ups in portions of the Barataria Bay and Lake Pontchartrain estuaries were conducted in 2007.

The following portion of the Barataria Bay estuary within that portion of Lafourche, Jefferson and Plaquemines Parishes was closed to the use of crab traps over a 10-day period extending from 6 a.m. March 3 through 6 a.m. March 12, 2007:

> From a point originating from the intersection of the Gulf Intracoastal Waterway and the northern shoreline of Hero Canal; thence due north to a point along the northern shoreline of the Gulf Intracoastal Waterway; thence southward and then westward along the northern shoreline of the Gulf Intracoastal Waterway to a point opposite the western shoreline of Bayou Perot; thence due south to the western shoreline of Bayou Perot; thence southward along the western shoreline of Bayou Perot to Little Lake; thence southward along the western shoreline of Little Lake to 29 degrees, 30 minutes, 00 seconds north latitude; thence eastward along 29 degrees, 30 minutes, 00 seconds north latitude to the eastern shoreline of Wilkinson Canal; thence northward along the eastern shoreline of Wilkinson Canal to its termination; thence due north to the western shore of the Mississippi River; thence northwestward along the western shore of the Mississippi River to a point due east of the northern shoreline of Hero Canal; thence due west to the northern shoreline of Hero Canal; thence westward along the northern shoreline of Hero Canal and terminating at its intersection with the Gulf Intracoastal Waterway.

The following portion of the Lake Pontchartrain estuary within portions of Jefferson, Orleans, St. Bernard and St. Tammany Parishes as described below was closed to the use of crab traps over a 10-day period extending from 6 a.m. February 24 through 6 a.m. March 5, 2007:

> From a point originating from the intersection of the Lake Pontchartrain Causeway Bridge and the southern shoreline of Lake Pontchartrain; thence eastward along the southern shoreline of Lake Pontchartrain to Chef Menteur Pass; thence southward along the western shoreline of Chef Menteur Pass to Lake Borgne; thence due south a distance of one-half mile from the Lake Borgne shoreline; thence eastward and then northward a distance of one-half mile from the Lake Borgne shoreline to a point due east of Catfish Point; thence northwesterly across Rigolets Pass to the southeastern most point of land on Hog Island; thence westward along the northern shoreline of Rigolets Pass to its intersection with U.S. Highway 90; thence northward along U.S. Highway 90 to its intersection with U.S. Highway 190 (Fremaux Avenue); thence westerly along U.S. Highway 190 to Military Road; thence northward on Military road to U.S. Highway 190 (Gause Boulevard); thence westward on U.S. Highway 190 (Gause Boulevard) to Causeway Boulevard; thence southward along Causeway Boulevard and then the Lake Pontchartrain Causeway Bridge and terminating at its intersection with the southern shoreline of Lake Pontchartrain.

A total of 1,498 abandoned crab traps were collected and overall documented volunteer participation included 11 recreational fishermen boat-days, one commercial crab fishermen boat-day, 16 LDWF boat-days and four agency/university boat-days. On a percentage basis, LDWF personnel collected 74 percent of the traps, followed by recreational fishermen collecting 15 percent, agency/university personnel collecting 11 percent and commercial crab fishermen collecting less than 1 percent. LDWF personnel provided 50 percent of the effort as measured by boat-days, followed by recreational fishermen providing 34 percent, other agencies/universities providing 13 percent and commercial crab fishermen providing 3 percent.

Four years of trap closures and trap cleanups have taken place under Louisiana's derelict crab trap removal program. The number of retrieved crab traps can best evaluate the success of the program, although volunteer participation should also be considered. A total of 15,950 derelict crab traps have been removed from Louisiana over three years and volunteer effort as measured by volunteer boat days was 186. The overall number of traps collected and volunteer participation was significant, verifying that a volunteer based derelict crab trap removal program could work.

There are, however, several points that should be made concerning Louisiana's crab trap removal efforts. First, despite the high number of derelict traps that have been removed, only a small proportion of the derelict crab traps were removed from each closure area. Deep water traps in bayous and lakes were not collected and many shallow water traps were not retrieved because the volunteers did not cover the entire closure area. Second, while a tremendous amount of publicity was generated and an enthusiastic endorsement was received from the general public and recreational and commercial fishermen, this enthusiasm was not reflected in direct volunteer participation, especially when trap cleanups are held in remote areas. There has been a decline in number of traps and volunteer participation in succeeding years. The number of traps removed and volunteer participation declined over the 2004-2007 period from 6,676 traps to 4,623 traps to 2,935 traps to 1,498 and from 215 boat-days to 50 boat days to 31 boat days to 32 boat days. Trap cleanups coordinated by the Texas Parks and Wildlife Department showed a similar trend in volunteer participation from 2002-2007. Third, the deep water spring cleanups where only traps with floats and lines are visible and which are dependent upon the cooperation of shrimp fishermen returning crab traps incidentally caught in their gear were not successful. The reluctance of shrimp fishermen to retain traps for later disposal at shore based disposal sites was probably the main contributing factor. In contrast, the shallow water winter cleanups, which were dependent upon volunteers that actively targeted visible derelict traps, were more successful.

Louisiana Crab Task Force

The Louisiana Crab Task Force has continued to meet and address issues that confront the industry. With assistance from the LDWF and Louisiana Seafood Promotion and Marketing Board, the Crab Task Force sponsored a "Crab Education Day" with members and staff of the House and Senate Natural Resources Committees. The Crab Task Force also continued discussions on a limited entry program for the commercial blue crab fishery, crab size limits, impacts of crabmeat imports and is making plans to host another crab education day.

Special Bait Dealer Permit Program

A total of 42 special bait dealer permits were issued to licensed wholesale/retail seafood dealers for the sale of live bait shrimp during 2007. This report summarizes only those data collected on submitted catch reports. According to permit catch reports, a total of 1,243,141 live shrimp (*Farfantepenaeus aztecus* and *Litopenaeus setiferus*) and 248,381 Atlantic croaker (*Micropogonias undulatus*) were harvested by dealers during the permit period. The number of live shrimp harvested during the 2007 permit period represents a 70 percent increase from levels reported last year. The number of trips taken exceeded those reported following the 2006 permit period. In 2007, dealers reported a total of 751 trips taken during the permit period and sales of approximately 1,737 pounds of market shrimp.

Cameron Parish dealers led all dealers in the number of live shrimp harvested but were closely followed by dealers in St. Bernard Parish. Ranked in descending order, live shrimp harvests were next highest in Jefferson Parish, Plaquemines, Terrebonne, St. Tammany, Non-Resident, Orleans and Lafourche Parish. Dealers in Jefferson Parish led all in the number of trips taken (246) as well as in the number of croaker harvested (169,941).

Although the number of permits issued in 2007 was significantly higher than in 2006, changes to special bait dealer regulations ratified in 2007 may have accounted for the increased number of shrimp harvested. According to provisions in LAC: VII.329, the special bait dealer program now allows for the harvest of croaker and the optional use of skimmer nets to harvest live shrimp and croaker.

Assuming retail values of $.25 for live shrimp and $.30 for live croaker, the total estimated dockside value of live shrimp and croaker marketed by permitted bait dealers during the permit period was approximately $310,785 and $74,514 respectively. Retail sales of dead shrimp marketed by permittees contributed $3,474 respectively.

Mollusc Management

The Mollusc Program manages the oyster resource on over 1.6 million acres of public oyster seed reservations, public seed grounds, public oyster areas and public tonging areas. Seed grounds are designated by the Wildlife and Fisheries Commission and include a large continuous area east of the Mississippi River, as well as areas of the Vermilion/Cote Blanche/Atchafalaya Bay system. Seed reservations, public oyster areas and tonging areas are designated by the legislature. LDWF manages four seed reservations, including one east of the Mississippi River (Bay Gardene), one in the Barataria Bay system (Hackberry Bay) and two in Terrebonne Parish (Sister Lake and Bay Junop).

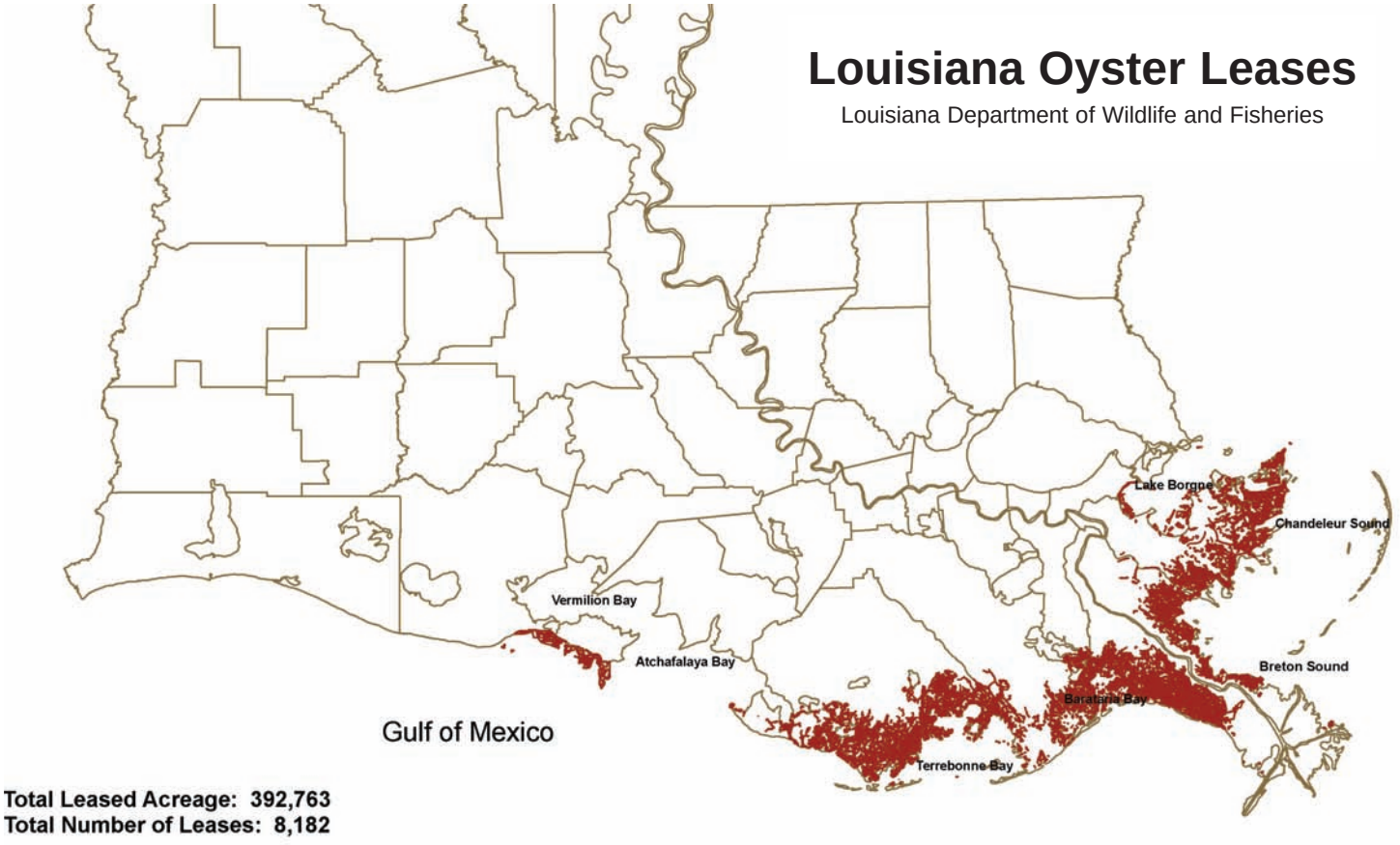
The Calcasieu Lake Public Oyster Area previously restricted commercial harvest to tonging. However, a 2004 law change allowed for the use of hand dredges to harvest the oyster resources located in the lake beginning in the 2004/2005 oyster season. An additional law change in 2005 allowed hand dredges to be fished with the aid of a mechanical assist. Therefore, mechanical dredge harvest in Calcasieu Lake mirrors the dredge harvest in other parts of the state with the exception of dredge size. Calcasieu dredges are limited to 36 inches in width while dredges used in other parts of the state are allowed to be as wide as six feet. Sabine Lake is

the only public tonging area in Louisiana, but poor water quality prohibits oyster harvest based on public health concerns. Seed grounds and reservations are managed with the goal of providing seed oysters for transplant onto private oyster leases (*Map 3*). However, a "Sacking Only Area" exists east of the Mississippi River in portions of Lake Fortuna and Lake Machias for the exclusive harvest of sack-sized oysters.

Six additional public grounds were designated in 2000 to be developed for oyster production. These grounds include portions of Barataria Bay, Deep Lake, Lake Felicity, Lake Chien, Lake Tambour and Lake Mechant. Initial site selection for new reefs in these areas was completed in 2002/2003 by utilizing side-scan sonar technology to analyze water bottoms. Barataria Bay, Lake Chien, Lake Felicity and Lake Mechant were chosen as locations for reef-building activities (*Figure 4*) in fiscal year 2003-2004 funded by the federal government through the Coastal Impact Assistance Program (CIAP). This project placed roughly 35,000 cubic yards of crushed concrete and limestone rock on suitable water bottoms in these areas in May/June 2004. Biological monitoring of the new reefs began immediately and has continued through 2007. Biological sampling showed the presence of a sizeable oyster resource on each of these new reefs prior to Hurricanes Katrina and Rita, but heavy oyster mortalities at these locations following the storm were documented by LDWF biologists. Biological sampling in July 2006 showed harvestable quantities of oysters on these reefs and allowed for a short, three-day oyster harvesting season on some of these reefs during the 2006-2007 oyster season.

Additional reef building projects were the result of a federal disaster grant secured by LDWF following Hurricane Lili and Tropical Storm Isidore in September/October 2002. Reef building activities in Hackberry Bay and Sister Lake were planned and carried out in May/June 2004. Over 20,000 cubic yards of cultch material were placed on suitable water bottoms in Hackberry Bay and Sister Lake. Biological monitoring began immediately after cultch planting and continued through July 2006. These reefs also experienced heavy mortalities following the hurricanes of 2005, but showed signs of rebounding as large amounts of seed oysters were documented to be present on the reefs in 2006. A three-day harvest season was allowed on these reefs in Hackberry Bay from September 6-8, 2006.

FIGURE 4. Reef-building activities in Barataria Bay Public Oyster Seed Ground, 2004.



MAP 3. Louisiana Oyster Leases

Oysters provide an economic benefit to the state, and the ecological benefits of oyster reefs are very important as well. Oysters are biomonitors of the overall health of the ecosystem and provide forage and shelter habitat for a variety of fish and invertebrate species. Oysters also affect water quality through filter-feeding activities, affect estuarine current patterns and may provide shoreline stabilization. Because oysters are so economically and ecologically important, wise management of the public oyster resource is critically important to ensure that this valuable species continues to thrive in Louisiana's coastal areas.

Statutory provisions mandate that LDWF open the oyster season on Louisiana public seed grounds on the first Wednesday following Labor Day of each year and close these areas no later than April 1 of each year. However, the Louisiana Wildlife and Fisheries Commission is authorized to extend the season beyond April 1 provided sufficient stocks are available for harvest. The Secretary of the LDWF may close seasons on an emergency basis if oyster mortality occurs, or delay the season or close areas where significant spat catch has occurred with good probability of survival, or if excessive amounts of shell in seed oyster loads occur. Management practices often use rotational openings of the four Oyster Seed Reservations in alternating years.

Management of the public oyster grounds, reservations and tonging areas (*Map 4*) relies heavily upon data gathered through a comprehensive monitoring program. This program provides quantitative and qualitative data on oyster populations and other reef-associated animals. Approximately 190 square-meter samples are collected each July and over 150 dredge samples are collected from March-October. Square-meter data are collected using SCUBA and the data are used to measure the annual oyster stock size and for yearly season recommendations by LDWF. Dredge data are used to monitor the overall health of the oyster resource during the year and to assess recruitment of new age classes of oysters into the population. Field biologists also gather hydrological data on public oyster areas and develop harvest and fishing effort estimates by conducting boarding report surveys of oyster boats.

Unequaled in oyster production over recent years, Louisiana consistently produces one of the most abundant and valuable oyster resources in the nation. Averaging nearly 14 million pounds per year, Louisiana accounted for approximately 58 percent of all Gulf of Mexico oysters, and was responsible for 43 percent of all oysters landed in the United States in 2006 (*Figure 5*).

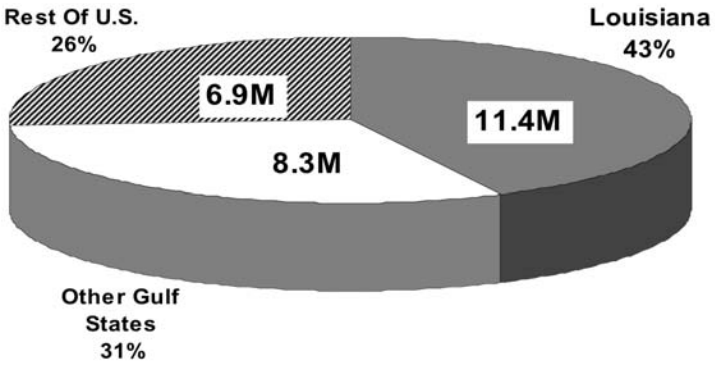
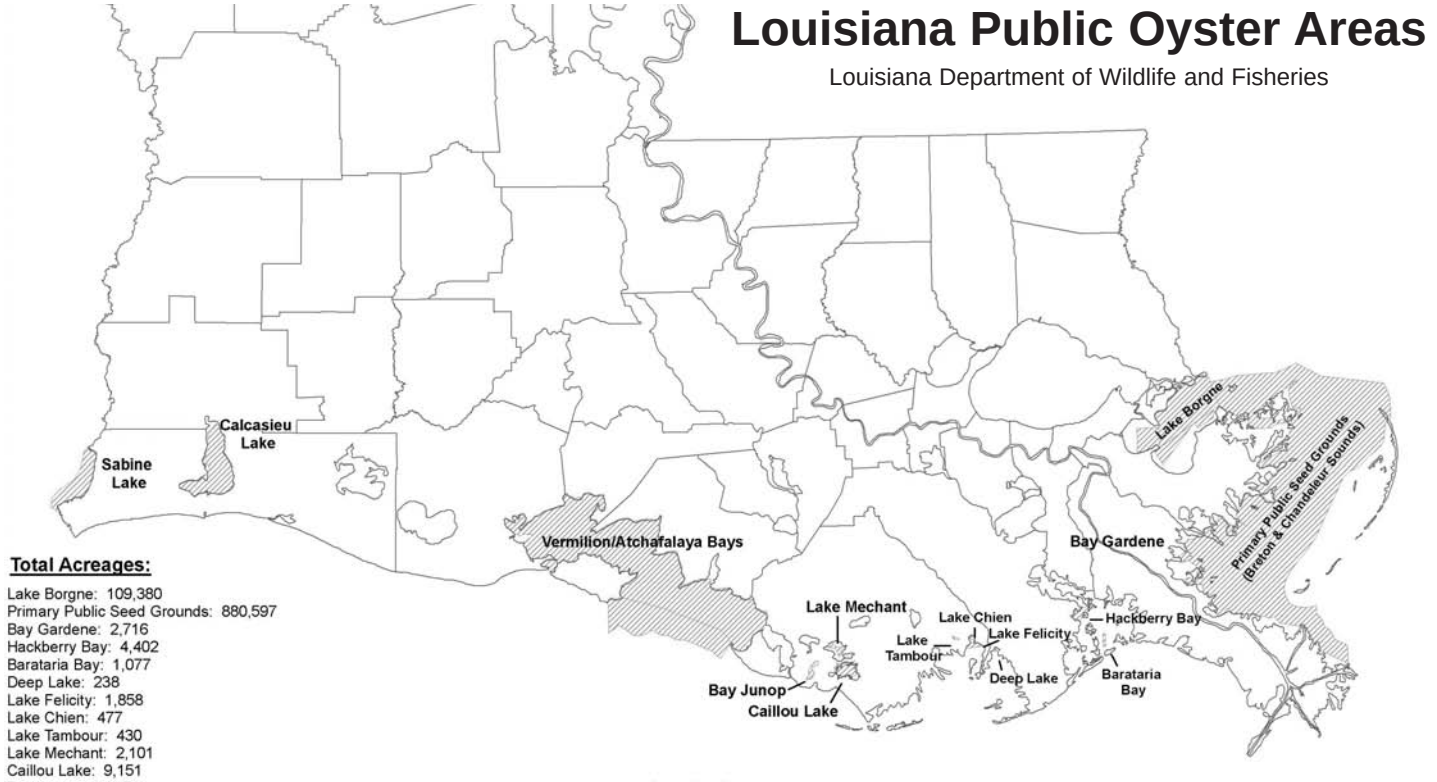


FIGURE 5. 2006 landings of Eastern oysters (*Crassostrea virginica*) in pounds of meat.



MAP 4. June 29, 2005

The importance of the oyster resource to Louisiana's economy is evident as Louisiana commercial oyster landings had a dockside value of over $36.1 million in 2006.

Oyster landings in Louisiana are divided between harvest from public oyster areas and private oyster leases. Oyster season on the public grounds generally runs from September-April (*Table 2*), but may be extended only after approval by the Louisiana Wildlife and Fisheries Commission. In 2006, the oyster season opened for a short time in September, and then closed until mid-November when it reopened until April 1, 2007. Historically, landings from private leases have comprised 60-80 percent of annual Louisiana oyster landings, and in 2006 nearly 70 percent of all oysters harvested in Louisiana came from private leases. Although the majority of oyster landings in recent years have come from private leases, the public oyster grounds continue to significantly contribute to annual oyster landings as landings in 2006 measured 3.07 million pounds of oyster meat (*Figure 6*). In addition, much of the oyster production from the private leases is dependent upon small seed oysters (less than three inches) transplanted from the public grounds to the leases for grow-out purposes.

Public Oyster Area	*Season Opening*	*Season Closure*
Lake Borgne Public Oyster Seed Ground and that portion of the Primary Public Oyster Seed Grounds east of the Mississippi River bordered on the north by the Mississippi-Louisiana state line and on the south by the Mississippi River Gulf Outlet (MRGO)	Sept. 6, 2006	Sept. 27, 2006
	Nov. 13, 2006	Apr. 1, 2007
That portion of the Primary Public Oyster Seed Grounds east of the Mississippi River bordered on the north by the MRGO and on the south by the Mississippi River and North Pass including the sacking only area of the public grounds which is generally Lake Fortuna and Lake Machias to a line from Mozambique Point to Point Gardner to Grace Point at the MRGO	Sept. 6, 2006	Sept. 27, 2006
	Nov. 13, 2006	Apr. 1, 2007
Bay Gardene Public Oyster Seed Reservation	Sept. 6, 2006	Sept. 27, 2006
	Nov. 13, 2006	Apr. 1, 2007
Bay Junop Public Oyster Seed Reservation	Nov. 13, 2006	Dec. 12, 2006
Vermilion, East and West Cote Blanche and Atchafalaya Bay Public Oyster Seed Ground	Sept. 6, 2006	Apr. 1, 2007
Calcasieu Lake Public Oyster Area	Oct. 16, 2006	Apr. 30, 2007
Hackberry Bay Public Oyster Seed Reservation	Sept. 6, 2006	Sept. 27, 2006
Lake Chien Public Oyster Seed Ground	Nov. 13, 2006	Nov. 15, 2006
Lake Felicity Public Oyster Seed Grounds	Nov. 13, 2006	Nov. 15, 2006
Lake Tambor Public Oyster Seed Ground	Season Remained Closed	
Barataria Bay Public Oyster Seed Ground		
Deep Lake Public Oyster Seed Ground		
Sister Lake Public Oyster Seed Reservation		
Sabine Lake Public Tonging Area		

TABLE 2. 2006-2007 Oyster Season Dates

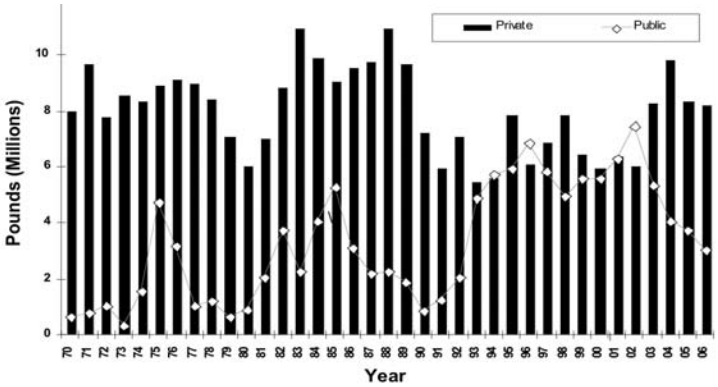


FIGURE 6. Historical Louisiana oyster landings (pounds of meat) divided between public grounds and private leases. *Note: Long-term average (LTA) for private landings is 8.032 million pounds. LTA for public landings is 2.963 million pounds.*

In 2006, biological sampling estimated that over 2.1 million barrels of oysters (both seed and sack combined) were available on the public oyster grounds throughout the state. This represented an overall decrease of nearly 18 percent from 2005 levels (*Figure 7*) and much of this decrease can be attributed to the continued effects of Hurricanes Katrina and Rita in August/September 2005. These hurricanes resulted in roughly 60-70 percent mortality of oysters on public grounds east of the Mississippi River and in Barataria Bay, while public grounds in the central coast suffered approximately 35 percent mortality from the storms. Despite the heavy oyster mortalities, a strong reproductive event (called a spat set) was documented immediately following the hurricanes which resulted in a 2006 increase in available seed oyster stocks on the public grounds.

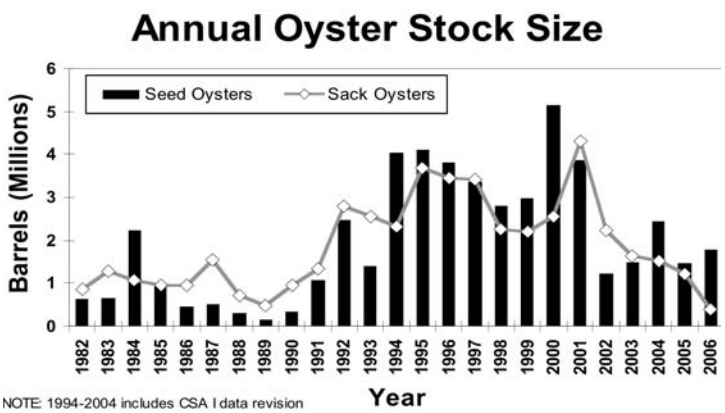


FIGURE 7. Annual oyster stock size on the public oyster grounds as estimated from biological sampling.

Oyster Leasing

The moratorium on the issuance of new oyster leases, at the request of Louisiana Department of Natural Resources (LDNR), remained in effect throughout fiscal year 2006-2007. The moratorium was requested in order to reduce the state's liability related to coastal restoration efforts. This moratorium does not affect lease renewals and 1428 renewal applications were processed.

On Dec. 1, 2006, the Oyster Lease Survey Section moved into temporary quarters on the first floor of the Louisiana National Guard Barracks Building at Jackson, and continues to maintain a website, which provides information to the public about oyster leasing in Louisiana. This website contains a searchable Geographic Information System (GIS) database of current leases,

landings and harvest statistics and recent news articles about oysters. The website has had thousands of visits since it was developed and placed on the web in March of 1998 and is available at: *http://oysterweb.dnr.state.la.us/oyster* or *http://oysterweb.wlf.louisiana.gov/oyster*.

Finfish Management

The primary objective of the finfish program is to make rational recommendations for the management of coastal finfish stocks based on a database of scientific information. The information in the database is collected through fishery independent and fishery dependent sampling. These programs are cooperative with NMFS and the Gulf States Marine Fisheries Commission. The fishery independent monitoring program is an ongoing collection of data by LDWF biologists in the field conducting surveys designed to sample coastal waters in an objective manner. Such surveys collect information based on geographic ranges independent of commercial or recreational fishing operations. The Marine Fisheries Division fishery dependent monitoring program collects information from fishers, processors and observers based on methods developed by NMFS for similar programs.

Fishery Independent Monitoring

A comprehensive monitoring program was developed in 1985 to protect or enhance these valuable resources by providing information regarding the status of fish stocks that occur in the coastal waters of Louisiana at some time during their life cycle. Three gear types are used coast wide to sample various year classes of estuarine dependent fish.

A bag seine is used to sample young of the year and provide information on growth and movement. A gill net is used to sample juvenile, sub-adult and adult fish and provides information on relative abundance, year class strength, movement and gonad condition. A trammel net is used to provide information on relative abundance, standing crop and movement. Gill net samples are collected semi-monthly from April-September, and monthly from October-March using a strike net technique. The gill nets are set in a crescent shape, open towards the shoreline and then circled several times by the sampling boat, driving those animals present into the net. Trammel net samples are taken monthly from October-March. Seine samples are taken monthly from January-August, and semi-monthly from September-December. Hydrological readings (conductivity, salinity and water temperature) are collected with each biological sample, as are wind direction and speed. Samples are collected at specific locations arranged in such a manner so as to cover the beach, mid-marsh and upper marsh areas of all major bay systems throughout coastal Louisiana. The catch and hydrological information is summarized for each Coastal Study Area on a monthly basis to give resource managers information on the current condition of the resource. The pertinent life history information for the important species is also used in developing analytical and predictive models. During fiscal year 2006-2007, 848 (99 percent) seine samples, 968 (99 percent) gill net samples and 241 (98 percent) trammel net samples were completed for a 99 percent completion rate.

Management recommendations based upon these observations and other information are listed below.

2006-2007 Finfish Management Actions, Impacts and Recommendations

July 2006

- Commercial large coastal shark second trimester season opened on July 1 at 12:01 a.m.
- Commercial king mackerel season opened on Jul. 1 at 12:01 a.m.
- Commercial fishery for tilefishes closed on Jul. 22 at 12:01 a.m.

October 2006

- Commercial king mackerel season closed on Oct. 6 at 12 p.m.
- Recreational red snapper season closed on Oct. 31 at 12 a.m.

November 2006

- Commercial king mackerel season closed on Nov. 17 at 12 p.m.

December 2006

- Commercial red snapper season extended to Dec. 26 at 12 p.m., to allow harvest of un-filled quota.

January 2007

- Set 2007 red snapper commercial regulations, including individual fishing quota rules.
- Secretary provided with authority to close commercial seasons of reef fishes if quota for species group is filled in federal waters.
- Set recreational seasons for gag, red and black grouper to close at 12:01 a.m. Feb. 15, 2007, and remain closed until 12:01 a.m. March 15, 2007.
- Set recreational trip limits on grouper to be five per person per day, but not to exceed one speckled hind or one warsaw grouper per vessel per day or one red grouper per person per day. The captain or crew of a charter vessel is not allowed to retain grouper.
- Set 2007 king mackerel commercial season; provide Secretary with authority to close commercial season for king mackerel if quota for species is filled in federal waters.
- Commercial large coastal shark first trimester season opened on Jan. 1 at 12:01 am.

February 2007

- Present 2007 stock assessments for striped mullet, black drum, southern flounder and sheepshead.

April 2007

- Commercial and recreational shark season closed until June 30, 2007.
- Reduced commercial red snapper size limit to 13 inches total length effective at 12:01 a.m. on Apr. 5
- Commercial fishery for tilefishes closed on Apr. 18 at 12:01 a.m.
- Recreational red snapper season opened on Apr. 21 at 12:01 am.

May 2007

- Recreational red snapper creel and possession limit reduced to two fish per person effective May 2, with no creel limit for captain and crew of charter vessels.

June 2007

- Commercial deepwater grouper season closed on Jun. 2 at 12:01 a.m.

The Fishery Management Program (FMP) interacts with other LDWF, state, regional and national issues. FMP contributes to the Gulf and Atlantic Aquatic Invasive Species Task Force that engenders cooperation on these issues for states from South Carolina to Texas and Mexico. FMP is also part of the Louisiana Aquatic Invasive Species Task Force. FMP works with the Gulf of Mexico Fishery Management Council Stock Assessment Panel to evaluate the status of fish stocks managed by the council. FMP works with the Gulf States Marine Fisheries Commission (GSMFC) to develop fishery management plans and stock

assessments for state-managed fisheries that have inter-jurisdictional management considerations. In addition, FMP contributes to LDWF consideration on permitting issues that relate to finfish including coastal use permits, Liquefied Natural Gas (LNG) terminals, mariculture and artificial reefs.

Fishery Dependent Monitoring

The value of commercial landings in Louisiana exceeded $271 million (*Figure 8*) in 2006, a $19.0 million increase from the 2005 landings year. LDWF continues to collect commercial statistics through the Trip Ticket Program that was implemented in 1999. Through this program, commercial landings data are collected on a trip basis from wholesale/retail seafood dealers, crab shedders and commercial fishermen holding fresh products licenses. There were over 209,160 commercial fishing trips reported in 2006 producing nearly one billion pounds of seafood (*Table 3*). A major part of the increase in pounds landed and dockside value was a result of the recovery of the fishing industry from the impacts of Hurricanes Katrina and Rita in the fall of 2005.

Marine Commercial Landings Dockside Value Louisiana 1990-2005

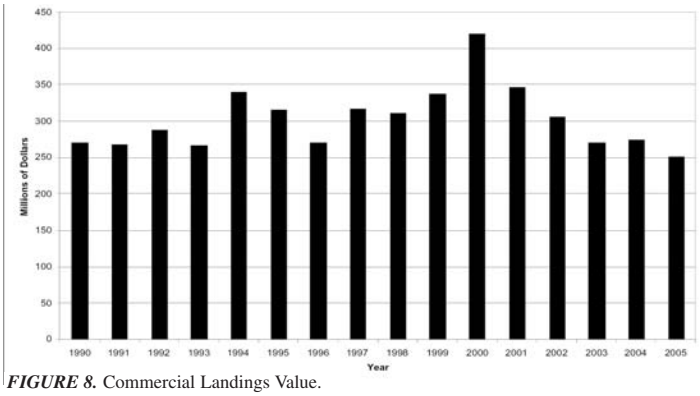


FIGURE 8. Commercial Landings Value.

Species	*Landings (lbs)*	*Value ($)*
Crab	52,926,644	$31,999,624
Freshwater Fish	11,719,263	$4,519,433
Menhaden	746,492,760	$29,781,088
Oyster	11,482,506	$36,166,218
Saltwater Fish	12,925,060	$19,718,268
Shrimp	137,845,520	$147,703,719
Wild Crawfish	1,467,577	$1,289,429

TABLE 3. 2006 Marine Commercial Landings.

Starting in May 2000 an electronic trip ticket program was developed and made available to dealers. To date, roughly 110 dealers utilize the computerized program and submit their trip ticket data to LDWF electronically. Trip ticket information has been used to enhance the accuracy of stock assessments conducted by state and federal fishery management agencies, and to estimate damages from Hurricanes Katrina and Rita in 2005.

The 2006 landings data have been completed and are available to start the analysis of recovery monitoring.

Along with the collection of commercial landings data, LDWF also conducts trip interviews of commercial fishermen. Biologists interview commercial fishermen to gather detailed information about a specific fishing trip. The federally funded program focuses on species of greatest state and federal interest.

LDWF, in conjunction with other states along the Gulf of Mexico and the National Marine Fisheries Service (NMFS), began a new program in 2002 for the collection of biostatistical information. Biostatistical samples such as otoliths, used to determine a fish's age, are collected from both the commercial and recreational fishery. Otoliths are sectioned and read by LDWF personnel to determine a fish's age much like reading the rings of a tree. Over 7,500 otoliths were collected during fiscal year 2006-2007 in Louisiana. The program will continue to improve the information used in stock assessments and improve the accuracy of the results.

LDWF continues to monitor recreational fisheries through the Marine Recreational Fisheries Statistics Survey (MRFSS) in cooperation with NMFS and GSMFC. This fisheries dependent program is achieved through dockside interviews of recreational anglers to determine catch and a telephone survey to determine effort. The MRFSS survey in Louisiana reported over 4.5 million marine recreational fishing trips were taken by approximately 1.2 million anglers in 2006 (*Figure 9*). This was an increase of 0.6 million marine recreational fishing trips from 2005. Recreational trips experienced a decrease in the fall of 2005 due to limited access after many marinas and docks suffered catastrophic loss in Hurricanes Katrina and Rita. In 2006, marine recreational anglers caught approximately 23.9 million spotted sea trout and 6.1 million red drum in Louisiana waters.

Marine Recreational Fishing Trips Louisiana 1990-2005

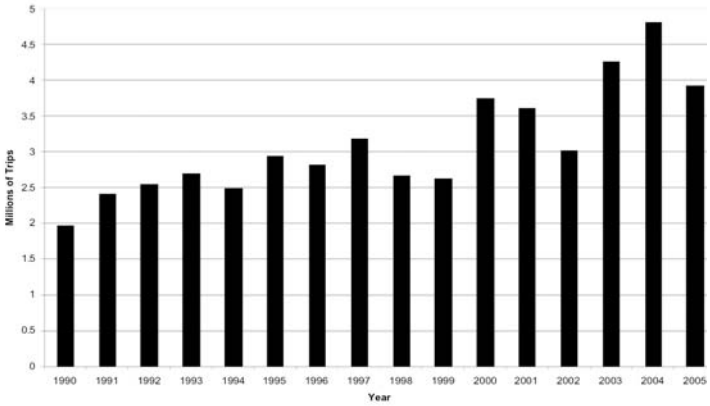


FIGURE 9. Marine Recreational Fishing Trips.

A draft log-book was developed and modified to a survey format to collect hurricane impacts on the economics and business aspects of the for-hire industry. The draft has been circulated for in-house comment and those recommendations are being compiled into the survey. A meeting was held with the Louisiana Charter Boat Association (LCBSA) to present the survey objectives and concepts. The LCBA agreed to help form a focus group to help finalize the survey.

Southwick Associates (2002), using data collected for the "2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation" (U.S. Department of the Interior, 2002), estimated that Louisiana saltwater anglers (resident and non-resident) spent approximately $410 million in 2001 for fishing trip expenses, equipment, and other expenses, with a total economic impact in Louisiana's economy of approximately $746 million. They also estimated that this supported approximately 7,800 jobs in the state.

Finfish Stock Assessments

Division personnel updated stock assessments for black drum, striped mullet, southern flounder and sheepshead during this fiscal year.

Lyle S. St. Amant Marine Biological Research Laboratory

The Marine Laboratory's primary mission is to conduct the research required to manage Louisiana's marine fisheries. The laboratory is made available for the use of other LDWF and non-LDWF entities engaged in fisheries management, enforcement, coastal restoration and marine education, and serves as headquarters of Coastal Study Area III in the Barataria Bay estuarine system. The marine laboratory also supports the monitoring of the Freeport Sulfur Mine Reef for the Louisiana Artificial Reef Program.

Visitors to the Lyle S. St. Amant Marine Biological Research Laboratory

- Dr. Earl Melancon with Nicholls had a graduate student, Nick Gaspard, begin working on a project in September 2006 comparing the intertidal oyster communities in the area as one of his sites is located at the lab. This project is expected to end in the fall of 2008.
- Dr. Ken Brown from LSU had two of his graduate students using the lab as a research station in November 2006. First, Gerald George was completing his work on the LSU Black Drum Project which was a continuation of an ongoing project studying the impacts on black drum predation on oysters. Second, Jody Callihan began working on a telemetry project studying movement of spotted seatrout. LDWF staff assisted with the project and provided the R/V Percy Viosca as a working platform for the projects. Both students worked out of the lab periodically for several months following their initial research to monitor their projects.
- Dr. Gary Lafleur with Nicholls used the laboratory docks in November 2006 and May 2007 as a means of access to the Grand Terre beach where he worked on photography activities with his students.
- Staff at the lab collaborated with Dr. John Supan on his off-shore oyster project from May 2007-August 2007. Laboratory staff provided assistance by operating the R/V Percy Viosca to deploy Dr. Supan's project near the Freeport Sulfur Mine.
- Dinah Maygarden is an instructor from UNO who teaches a summer program to high school students. Part of their class work included a study of the barrier islands. She arranged to bring her students to Grand Isle on June 20, 2007 where they were transported to Grand Terre by LDWF staff and Grand Isle Port Commission staff. LDWF staff gave the group a presentation discussing various aspects of our jobs.
- LDWF staff worked with Kirsten Simonsen to conduct an artificial reef study that ended in June 2007. This project involved running a series of gill nets and seine samples in January, February and June to determine what types of fish use artificial reef.
- The Wetshop Program was unable to stay at Grand Terre as it had done in previous years, but we were able to work out a schedule with Angela Capello to allow the participants to visit the island in June 2007 and conduct some of the exercises they had planned. Participants were able to visit Fort Livingston and gain knowledge about the history of Grand Terre. LDWF staff gave presentations on Age and Growth techniques and brought the participants out on boats to demonstrate sampling techniques.
- USDA continues to maintain bee colonies at their site on Grand Terre.

Federal Aid in Sport Fish Restoration

The Federal Aid in Sport Fish Restoration Act, commonly referred to as the Dingell Johnson Act, passed on August 9, 1950, and was modeled after the Pittman Robertson Act to create a parallel program for management, conservation and restoration of fishery resources. The Sport Fish Restoration Program is funded by revenues collected from the manufacturers of fishing rods, reels, lures, flies and artificial baits, who pay an excise tax on these items to the U.S. Treasury. An amendment to the act in 1984 (Wallop Breaux Amendment) added new provisions by extending the excise tax to previously untaxed items of sport fishing equipment.

Appropriate state agencies are the only entities eligible to receive grant funds. Each state's share is based 60 percent on its licensed anglers (fishermen) and 40 percent on its land and water area. No state receives more than 5 percent or less than 1 percent of each year's total apportionment. The program is a cost reimbursement program, where the state covers the full amount of an approved project then applies for reimbursement through Federal Aid for up to 75 percent of the project expenses. The state must provide at least 25 percent of the project costs from a non federal source. During 2006, Louisiana used the marine share of its Sport Fish Restoration Funds in support of the following projects:

Marine Boating and Fishing Access

This project continued development of marine boating and fishing access for recreational anglers. According to current federal regulations each state shall allocate at least 10 percent of each annual apportionment under Federal Aid in Sport Fish Restoration Act for recreational boating access facilities. All facilities constructed, acquired, developed, renovated or maintained (including those existing structures for which maintenance is provided) must be for the purpose of providing additional, improved or safer access of public waters for boating recreation as part of the state's effort for the restoration, management and public use of sport fish. It is an objective of LDWF to strengthen its ability to effectively meet the consumptive and non consumptive needs of the public for marine fish resources.

Stock Assessment of Louisiana's Important Marine Finfishes, F-97

High quality data for the stock assessment for various species are essential for making management decisions. This project will determine the spawning ratio of the major recreational saltwater finfish in order to comply with legislative mandates that regulatory action be taken when the Spawning Potential Ratio (SPR) falls below 30 percent. The goal is to ensure that the stocks of these finfish are not over fished. The spawning potential ratio will be determined using age, growth and fecundity. The LSUCFI will assist with the analysis of samples. Marine Fisheries sampling crews obtain otoliths from important marine fish. Additional work is added as needed to address age, growth and reproductive biology of selected finfishes to support stock assessment efforts. This project started on Jul. 1, 1999 and is an ongoing project. As of Jun. 30, 2007, approximately 36 formal stock assessment reports have been completed as a result of this project.

Louisiana Marine Sport Fish Investigation, Laboratory Acquisition/Development, Southeast Louisiana, F-108

This grant will be used to construct a new marine fisheries laboratory facility on a 7.8 acre tract in Grand Isle, La. Project

planning started on Sept. 1, 2001. This new laboratory facility will replace the Lyle S. St. Amant Marine Biological Laboratory located on Grand Terre Island. The facility will consist of four buildings including a laboratory/office building, dormitory, workshop with a storage area and covered marina and a covered boat hoist.

Construction work began on Phase 2 of the project in October 2006 by Circle, Inc. Since that time contractors have completed dredging of the marina, installing the sheetpile walls and started grading the land. Phase 2 is expected to be completed in February 2008. Phase 1 of the project was awarded to Shaw Constructors who began construction on Jun. 4, 2007. The contract time is 425 days. Shaw began compacting the building sites, establishing rough grades for the soil, installing plumbing and electrical lines and driving piles for the four buildings being constructed. Construction is expected to be completed in September 2008.

Evaluating Sport Fish Use of Created Wetlands in the Atchafalaya Delta Project (Contracted to LSUCFI) F-107

The Atchafalaya Delta is losing coastal wetlands, and the Coastal Wetlands Planning, Protection and Restoration Act provided funding to restore these wetlands. Dredge spoil from the river will be used to create new wetland habitat. Phases 1 and 2 of this project examined the suitability of this habitat for sport fish production. These data will be used in future planning efforts to optimize the creation of habitat for sport fish. Phase 3 will add sampling from the Wax Lake Delta to be used to compare altered and unaltered systems. This project is currently in the third phase of continuing research. Phase 1 started on Sept. 1, 2001 and was completed on Jun. 30, 2003. Phase 2 started on Oct. 26, 2003 and was completed on Jun. 30, 2006. Phase 3 started on Jul. 1, 2006 and is scheduled to be completed by Jun. 30, 2008. Through Jun. 30, 2007 approximately 85 percent of the overall project has been completed.

Continuation of Identifying Essential Fish Habitats in Barataria Bay Project (Joint project with LSUCFI) F-106

Objectives for Phases 1 and 2 of this project were to describe essential fish habitat (EFH) using sidescan sonar, split beam hydro acoustics and stable isotope techniques. It also identified EFH in Barataria Bay and quantified its value to important sport fish species. These techniques yield data that can be used to address the protection and conservation of habitats important to marine, estuarine and anadromous finfish. Through a partnership, LDWF and LSU developed a monitoring program, established sampling protocols and conducted field sampling. The project identifies juvenile habitat use by sampling tissue and examining differences in isotopic composition. These data will be integrated together to provide marine fisheries managers with habitat use by various fish species. Phase 3 is titled "Can Pulsed-River Diversions Shift Ecological Baselines in Louisiana Estuarine Ecosystems?" Phase 3 was initiated to develop a better understanding of the relationship between wetland habitats and fisheries productivity in Louisiana and the efforts to maintain and restore both. Another objective of Phase 3 is to develop an explicit understanding of how higher trophic levels are affected by landscape and smaller-scale changes in wetlands topography and estuarine hydrology via direct collaboration and contemporaneous sampling with wetland scientists. This project is currently in the third phase of continuing research. Phase 1 started on Sept. 1, 2001 and was completed on Aug. 30, 2003. Phase 2 started on Nov. 1, 2003 and was completed on Jun. 30, 2006. Phase 3 started on Jul. 1, 2006 and is scheduled to be completed by Jun. 30, 2009. Through Jun. 30, 2007 approximately 65 percent of the overall project has been completed.

An Analysis of Spotted Seatrout (*Cynoscion nebulosus*) Feeding Habits within Louisiana Bay Systems (Joint project with the University of New Orleans) F-123

This project will determine whether food web assemblages and trophic positions of sea trout differ among three distinct habitats using carbon and nitrogen stable isotope analysis and fatty acid analysis. This project started on Jul. 1, 2004 and is scheduled to be completed by Jun. 30, 2008. Through Jun. 30, 2007 approximately 75 percent of the project has been completed.

Marine Sport Fish Tagging Study (Joint project with LSUCFI) F-124

This three-year project will develop an alternative estimate of red drum escapement through a tagging study utilizing a diverse partnership among fisheries scientists and volunteer anglers. Angler education is an important component of this project. LSU is a funding and research cooperator. This project started on Jul. 1, 2004 and was completed Jun. 30, 2007. This project will continue for an additional three years, Jul. 1, 2007-June 30, 2010.

Sport Fish Utilization of Artificial Reefs vs. Open Water Habitats (Joint project with LSUCFI) F-130-DR

The purpose of this research is to gain understanding of differential habitat utilization and energetics of natural vs. manmade oyster reefs for selected fish species. The project will evaluate and document the value of limestone based inshore artificial oyster reefs as essential fish habitat for important marine sport fish species, associated forage species and benthic invertebrate colonizing species. This project started on Jan. 1, 2005 and is scheduled to be completed by Dec. 31, 2007. Through Jun. 30, 2007 approximately 80 percent of the project has been completed.

Fisheries and Habitat Assessment of Bayou St. John, Restoring a Historic Urban Sport Fishery (Joint project with UNO and New Orleans City Park) F-131-R

Bayou St. John and the City Park Lagoons are located near the downtown area of New Orleans, La. This grant will assess and restore habitat, determine the quantity and quality of sport fish populations and quantify fishing pressure. Modifications in the water supply system will allow estuarine organism inflow into the entire system. Public use should increase as a result of improved fishing. Due to impacts from Hurricane Katrina, project initiation was delayed six months and did not begin until Jan. 2, 2006. This project is scheduled to be completed by Jul. 1, 2008. Through Jun. 30, 2007 approximately 70 percent of the project has been completed.

The Louisiana Artificial Reef Program

The Louisiana Artificial Reef Program (LARP) was founded in 1986 through the cooperative efforts of the LSU Coastal Fisheries Institute (LSUCFI) and the LDWF. Resultant legislation called for the development of a State Artificial Reef Plan and provided for an Artificial Reef Program in Louisiana (LARP). Act 100 of the 1986 Legislature established that LDWF would operate the program with logistical support from LSUCFI. LSUCFI and LDWF produced a plan in the fall of 1986 that was accepted by

the Louisiana Legislature. The plan outlined the citing, permitting and monitoring requirements of the program.

The LARP was established to use obsolete oil and gas platforms to provide habitat for Louisiana's coastal fishes. Federal law and international treaty require oil exploration companies to remove these platforms one year after production ceases. The LARP has provided an opportunity for oil companies to contribute to maintenance of fisheries habitat. Since its inception, a total of 55 oil and gas related companies have participated in the offshore program and donated the jackets of 148 oil and gas structures, 40 Armored Personnel Carriers and one offshore tug structure which were installed at select locations as artificial reefs. In addition, the reef program also developed 14 inshore reefs, primarily low profile reefs composed of shell and limestone. LDWF constructed eight reefs and six others were constructed in association with conservation groups. In working with one of these groups, LDWF constructed four reefs using reef balls. Reef balls have been deployed successfully in tropical and oceanic environments but this was the first attempt to deploy in an estuarine setting. Seven new obsolete oil platforms were added to the program as artificial reefs during fiscal year 2006-2007.

In June 2004, LDWF deployed its first deep-water reef as part of its deep-water reef program. The structure, located in South Pass Block 89, approximately 15 miles south of the mouth of the Mississippi River, was previously owned by Marathon. The reefs are in water depths in excess of 400 feet. This water depth was chosen to minimize the impacts on the shrimp fishery. It has been reported that less than 1 percent of the shrimping activity takes place at these water depths. In addition these platforms are very difficult and expensive to remove. The partial removal preserves the hard bottom habitat and maintains fishing opportunities for its residents, the oil and gas industry saves money on decommissioning the platforms, but more importantly the fish keep their homes. Since that time two additional platforms have been deployed as deepwater reefs.

As the oil and gas industry in the Gulf of Mexico continues to recover from the devastation of the 2005 hurricane season, they have been faced with removing 165 structures and eight mobile offshore drilling units destroyed or damaged by the storms. Industry has sought alternatives in cleanup activities to reduce the cost of removal and have petitioned the LARP to accept structures at the location they were destroyed. The LARP manages a Special Artificial Reef Sites (SARS) program specifically aimed at establishing artificial reefs under unusual and/or exceptional circumstances, such as occurs during natural and man-made catastrophes. The LARP attempts to minimize negative impacts and the cost of removing these structures, while maintaining and enhancing fisheries habitat. The SARS projects approved at the end of 2006 are underway with several nearing completion. Hurricane damaged platforms continue to be evaluated for acceptance into the SARS program.

HABITAT PROTECTION PROGRAMS

Habitat Protection Programs include the Southeast Area Monitoring and Assessment Program (SEAMAP), Hydrographic Monitoring, Monitoring Louisiana's Rainfall, Air Temperature and River Discharge, Oil Spills and Hazardous Materials, Caernarvon Freshwater Diversion Monitoring, Seismic and Coastal Wetlands Protection.

Southeast Area Monitoring and Assessment Program

The Southeast Area Monitoring and Assessment Program (SEAMAP) is a cooperative state, federal and university program for collecting, managing and disseminating fishery-independent biological and environmental data and information in the southeastern United States. Fishery-independent data are those collected by fisheries scientists, rather than fishermen. SEAMAP collects data on fish stocks that are managed jointly by the states and federal government, and conducts a variety of data collection activities including a Fall Shrimp/Groundfish Survey, Spring Plankton Survey, Reef Fish Survey, Summer Shrimp/Groundfish Survey, Fall Plankton Survey and other plankton and environmental surveys.

LDWF collects samples between Southwest Pass of the Mississippi River and Pointe-au-Fer, and out to the 120-foot depth contour off the Louisiana coast. Louisiana SEAMAP activities include summer (July), autumn (October) and winter (December) trawl surveys that also collect zooplankton and environmental resource data.

Biological samples are collected using a SEAMAP-standard 40-foot trawl to collect juvenile and adult animals. Each trawl station is sampled once during daylight hours and once at night to measure the different animal communities that are present in a daily cycle. Plankton nets are used to sample early life history stages (eggs and larvae) of marine organisms. Environmental data are collected at all stations.

The winter 2006 survey was conducted Dec. 12-15 aboard the chartered vessel *Pelican*. All 12 scheduled daytime and nighttime demersal trawl stations and six plankton stations were sampled successfully.

The summer 2007 survey was conducted Jun. 26-29 abroad the charted vessel *Pelican*. All 12 scheduled daytime and nighttime demersal trawl stations and seven plankton stations were sampled successfully. There were no stations found to be hypoxic during the winter 2006 cruise, and eight stations sampled during the June 2007 cruise had hypoxic bottom water.

Data from all sample cruises, including real-time shrimp and red snapper data from the summer cruise were entered, verified and uploaded to the SEAMAP data management system. SEAMAP data are available by request, as are the various publications of the SEAMAP program including environmental and biological atlases of the Gulf of Mexico for each year from 1983 through the present. More information about SEAMAP is available at the Gulf States Marine Fisheries Commission website, *www.gsmfc.org*.

Hydrographic Monitoring

LDWF began collecting constant records of salinity, water temperature and tide level in 1958. This program continued in 2006-2007, cooperatively between LDWF and the U.S. Geological Survey (USGS). Data are collected from 15 stations located from the Pearl River to Calcasieu Pass (*Table 4*).

Field data are collected by USGS, and finished data are provided to LDWF. All sites collect data in near real-time (four-hour lag). The data are transmitted via satellite from the instrument in the field to the USGS office in Baton Rouge and downloaded to the LDWF's database via the Internet. Both internal and external data

TABLE 4. Data collection stations

LDWF#	USGS#	STATION NAME	CURRENT STATUS
105	0738023365	Bayou Rigolets near Slidell	Offline
112	07374526	Black Bay near Snake Island, Point-a-la-Hache,LA	Online
117	3007220891501	Mississippi Sound at Grand Pass	Offline
315	073802515	Barataria Pass East of Grand Isle	Online
317	07380251	Barataria Bay North of Grand Isle	Online
320	07380335	Little Lake near Cutoff	Online
321	07380340	Tennessee Canal near Cutoff	Online
338	073802512	Hackberry Bay NW of Grand Isle	Online
417	073813498	Caillou Bay SW of Cocodrie	Online
518	07381349	Caillou (Sister) Lake SW of Dulac	Online
622	07387040	Vermilion Bay near Cypremont Pt.	Online
623	07387050	Vermilion Bay at Bayou Fearman	Online
730	08017095	North Calcasieu Lake near Hackberry	Online
731	08017118	Calcasieu River near Cameron	Online
732	08017044	Calcasieu River at the I-10 Bridge	Online

requests are filled from this database. Once processed, the data are used to support fishery management by, for example, determining how much suitable area of brown shrimp nursery grounds are available each year and setting season opening dates.

Monitoring Louisiana's Rainfall, Air Temperature and River Discharge

LDWF is continuously updating the database with rainfall, air temperature and river discharge readings throughout the state. These readings are used to monitor inputs that affect the elevation of the state's coastal waters. It is also vital in supporting fishery management by, for example, determining conditions available for brown shrimp each year, resulting in the season opening dates. Field data are collected by outside agencies and are provided to LDWF via the Internet. Once processed, both internal and external data requests are filled from the database by LDWF biologists.

The rainfall and air temperature data are collected from nine different divisions, each having multiple stations in various locations statewide. Each of these sites is supervised by National Oceanic and Atmospheric Administration (NOAA)/National Weather Service and the information is compiled and published in monthly and annual reports and received at the National Climatic Data Center (NCDC). Readings are available in monthly averages for each division, as well as average minimum and maximum air temperature. Monthly preliminary data are sent to LDWF but is not entered until NOAA edits and publishes the final draft for each month and then ultimately for each year. LDWF biologists enter the data from monthly published reports and verifies with annual summaries for any editions.

The river discharge data are collected in real-time and are transmitted to the U.S. Army Corps of Engineers, New Orleans District. LDWF retrieves this information at: *http://www.mvn.usace.army.mil/eng/edhd/wcontrol/wcmain.htm*. The Mississippi and Atchafalaya are the only two river basins that LDWF monitors. The Mississippi River station is located at Tarbert Landing, Miss. and the Atchafalaya River station is located at Simmesport, La. These stations transmit a daily reading. LDWF biologists enter and verify the data for inclusion into the database. The data collected during the 2006 year showed rainfall and river discharge to be below our long-term average, and air temperatures to be slightly above our long-term average.

National Coastal Assessment (Coastal 2000)

LDWF participated in the EPA program, National Coastal Assessment (NCA). The program consisted of LDWF personnel sampling 50 randomly generated sites in coastal Louisiana for water quality, fish tissue and sediment samples. The sampling period was from Jul. 15-Sept. 15 and the samples were divided spatially into Coastal Study Areas, with department staff conducting the sampling. Chlorophyll, total suspended solids and sediment grain size were analyzed in LDWF's coastal ecology laboratory. Water column nutrients, sediment metals, hydrocarbon, toxicity, total organic carbon and fish tissue hydrocarbon were sent to the EPA to be analyzed in contracted labs.

In June 2007 the two-year continuation grant ended. However, due to delays encountered during the 2006 grant process, including adjustments to the sampling design, and in light of the logistical problems at EPA's Gulf Breeze Facility in the wake of Hurricane Katrina, the samples sent there for analysis were not returned by June 2007, delaying the close of the grant period.

Oil Spills and Hazardous Materials

LDWF's Oil Spill Task Force continued in fiscal year 2006-2007 to develop and implement plans to protect and restore the state's wildlife, fishery and habitat resources from the adverse effects of oil spills. With other state and federal trustees, LDWF representatives continued to develop a pilot plan for a regional restoration planning program for Louisiana that will provide a means to efficiently restore habitat and other natural resources injured as a result or small spills.

Pre-assessment data collection for NRDA began for spills that occurred during fiscal year 2006-2007. These were:

- August 2006 Apache pipeline incident in Plaquemines Parish, La. on Pass-a-Loutre WMA.
- January 2007 Expert Oil and Gas well blowout in Bayou Perot near Lafitte, La.
- January 2007 Forest Oil pipeline incident in Plaquemines Parish, La. on Pass-a-Loutre WMA.
- January 2007 Harvest Oil pipeline incident in Plaquemines Parish, La.
- May 2007 Mariner pipeline rupture in Plaquemines Parish, La.

LDWF continued damage assessment and restoration planning activities:

- January 2005 Shell pipeline spill in Joseph's Bayou in South Pass.
- February 2005 Texas Petroleum pipeline spill at Delta Farms in Lafourche Parish.
- April 2005 Exxon/Mobile pipeline rupture in West Champagne Bay.
- June 2005 Amerada Hess tank overflow onto Breton Island.
- July 2005 Exxon/Mobil spill in West Bay Champagne north of Grand Isle.
- August 2005 Enervest had a well head leak in Garden Island Bay.
- August 2005 multiple small spills related to Hurricane Katrina in Southern Louisiana
- September 2005 multiple small spills related to Hurricane Rita in the western portion of the state.
- October 2005 Gold King/Shell had a mystery spill in Garden Island Bay.
- November 2005 Exxon/Mobile had a pipeline rupture in Raceland.
- January 2006 Shell pipeline spill in Joseph's Bayou in South Pass.
- Continually discovered Hurricane Katrina and Rita spills across coastal Louisiana.
- June 2006 CITGO waste pit overflow in the Calcasieu Ship Channel.
- September and October 2004 multiple post Hurricane Ivan oil spills into the marsh along Pass-a-Loutre and in the WMA itself.
- Damage assessment on November 2003 Exxon/Mobil pipeline spill on Mendicant Island north of Grand Isle in Barataria Bay.
- Restoration planning with Shell/Texaco on a December/ January 2003 pipeline blowout in Terrebonne Bay, south of Cocodrie, La. to discuss restoration projects.
- Injury determination on a March 2003, Exxon/Mobil oil spill in Lake Washington, out of Port Sulphur, La.
- Restoration phase begun for the April 2002 BP/Amoco pipeline spill in Little Lake in the Barataria Basin near Galliano, La.
- Restoration projects circulating for the May 2002 Unocal Oil pipeline spill in the East Lake Palourde Field near Morgan City.
- Continual site visits for damage assessment determinations of the December 2002 Hillcorp pipeline spill at Duck Lake in the Atchafalaya basin.
- Restoration planning began for the September 2002 Ocean Energy well blowout at North Pass of the Mississippi River near Delta National Wildlife Refuge and Pass-a-Loutre WMA.
- Restoration underway for an April 2001 Williams Petroleum pipeline spill at Mosquito Bay near Pointe-au-Fer.
- Monitoring of restoration that was put in place for the November 2000 T/V Westchester tanker spill in the Mississippi River. The focus of restoration for this spill was the area on and around Pass-a-Loutre WMA where a delta splay project was constructed to compensate for marsh and other habitat injuries. Improvements were also made to campground facilities on the WMA. Monitoring continues.
- Restoration planning activities for a June 1997 Apache Corporation pipeline spill in coastal Vermilion Parish continued in 2004.
- Restoration project for the September 1998 Equinox well blowout in Lake Grand Ecaille, Plaquemines Parish was delayed by Katrina-related equipment shortage.

LDWF also participated in an interagency project initiated by the Louisiana Oil Spill Coordinator's Office to develop regional plans to restore natural resources injured in oil spills.

In addition, LDWF is participating with other state and federal agencies in planning restoration of hazardous materials sites. Two planning activities continue: Bayou Trepagnier in St. Charles Parish and Calcasieu River in Calcasieu Parish.

LDWF also evaluated and responded as needed to approximately 3,000 oil spill notifications which were received from State Police. These notifications cover a range of hazardous emissions and chemical spills as well as oil spill related incidents.

Seismic Section

The LDWF Seismic Section was created in 1939 specifically to protect oysters, fish, shrimp and other wildlife from the effects of seismic exploration. Seismic exploration uses energy waves to generate a profile of sub-surface reflective layers that help define potential oil and gas traps. The energy waves can be produced by explosives detonated below the ground (generally 100-150 feet deep), by air guns that emit a powerful burst of air just above the surface or by large vibrating pads placed on the surface. These projects can occur in sensitive wetlands, water bodies and uplands. Seismic agents monitor geophysical companies to protect Louisiana's fish and wildlife resources by ensuring compliance with LDWF seismic rules and regulations. During fiscal year 2006-2007, the Seismic Section monitored 31 projects throughout the state.

Coastal Wetlands

In fiscal year 2006-2007, the Marine Fisheries Division continued to work with state and federal agencies to develop strategies for slowing the rate of coastal wetlands loss in Louisiana. Multi-agency planning ensures that the needs of various resources are included in the plans. The state of Louisiana was in the process of developing a comprehensive coastal restoration and protection plan during this time period which emphasizes flood protection and reducing saltwater intrusion into areas of fresh and intermediate marshes, especially in the southeastern part of the state. In addition, the U.S. Army Corps of Engineers began compiling a master plan to do exactly the same thing, using very similar approaches. Many of these projects that are designed to reduce flooding and salt water intrusion do so by blocking tidal exchange. Loss of tidal exchange reduces the area of wetland nurseries available to juvenile marine organisms, thus potentially reducing the population of those species. Changes to coastal fish and wildlife resource populations can cause displacement and economic stress for communities with economies that depend upon these resources. Marine Fisheries staff worked with federal and state planners to develop strategies that ensure that new or modified designs avoid, minimize or mitigate adverse environmental impacts from large coastal projects.

Extensive fisheries resource monitoring programs continued for both the Caernarvon and Davis Pond Freshwater Diversion Projects. The Caernarvon Project has been operational for 16

years and LDWF personnel have monitored its effects on the fish, wildlife and vegetation populations in the basin throughout its operation. The Davis Pond Project came on-line in July 2002. Ongoing maintenance designed to address problems with flooding in the ponding area north of Lake Cataouatche continued to limit the amount of freshwater diverted through the Davis Pond structure. More water was diverted through these structures in fiscal year 2006-2007 as a result of recommendations by the Interagency Advisory Committees for both Davis Pond and Caernarvon. Marine Fisheries personnel continued to monitor the fisheries resources in the Barataria Basin including a comprehensive study of the Davis Pond project effects on recreational fishing throughout the basin. The Marine Fisheries Division provides input into the operation of both structures.

INLAND FISHERIES

The Inland Fisheries Division manages fish populations through surveys, fish sampling, fisheries regulations, fish stocking and the modification of fisheries habitat. In addition, the division is charged with the control of nuisance aquatic vegetation in public water bodies. This is accomplished through an aggressive aquatic plant control program that utilizes a variety of management options including herbicides, drawdowns and biological controls. The division is also coordinating the state's efforts with respect to invasive species. Act number 185 of the 2004 legislative session created the Louisiana Aquatic Invasive Species Council and Task Force within the Department of Wildlife and Fisheries. The council and task force are working to implement the "State Management Plan for Aquatic Invasive Species in Louisiana." The goal of the management plan is to prevent and control the introduction of new nonindigenous species into Louisiana, to control the spread and impact of existing invasive species and to eradicate locally established invasive species wherever possible.

FISHERIES MANAGEMENT

Lake Management

Fisheries managers estimate relative abundance, size class structure and species composition of fish population and physiochemical characteristics of the water in 90-100 lakes, rivers and streams annually. All lakes are sampled in a similar manner so that data from different waterbodies are comparable.

Electro fishing samples are taken in the spring and fall to provide a measure of abundance. Only largemouth bass are collected in the fall, while largemouth bass and crappie are collected in the spring. A forage sample of all species is also collected in the fall. Standard sampling time is 900 seconds per station.

Gill net samples are taken during winter primarily to determine relative abundance and length frequencies of gizzard shad, striped bass, hybrid striped bass and commercial and rough fish species. Monofilament nets with mesh sizes from 2.5 to 4.0 inches (bar mesh) are set at dusk and gathered at sunrise. Each fish taken is identified, weighed and measured. This sampling method provides gear selectivity, species composition and length frequency information.

Nighttime shoreline seine sampling measures reproductive success of the sunfishes including bass and bluegill. Year-class strength, species composition and prey availability are provided by this sampling effort. Samples are conducted during spring and summer and consist of one quadrant haul at each sample site using a 25-foot by six-foot seine.

Inland Fisheries uses lead nets to measure relative abundance and length-frequencies of crappie and other sunfish. Species composition, age and growth and length weight relationships are determined. Sampling is conducted for a minimum of 48 hours with two nets at each station.

Water quality samples are taken at all sampling stations. Water temperature, pH, dissolved oxygen concentration, conductivity, oxidation/reduction potential and water depth are measured.

Creel samples were conducted on nine water bodies in 2007. This sampling method puts the fisheries manager in direct contact with the fishermen. Information collected includes species sought and species caught, distance traveled, time fished, number caught and released and a measurement of all fish harvested.

The Inland Fisheries Division also monitors other fish species, including paddlefish and sturgeon. The division continues to collect data on relative abundance, habitat requirements, movements and population estimates. Paddlefish movement continues to be studied with 30 returned fish collected this year. Tagging, age and growth and population characteristics of pallid and shovelnose sturgeon will continue to be collected in 2008. The division has tagged and handled over 500 sturgeons which include 32 pallids. Approximately 10 satellite receiver stations have been established along reaches of the Mississippi River to monitor the endangered pallid sturgeon.

Giving technical advice to owners of ponds and small lakes is also part of the responsibility of Inland Fisheries. During fiscal year 2006-2007, division biologists made site visits, assisting residents of the state on problems ranging from construction and stocking requirements, to harvest and disease identification. The biologists also answered over 2,500 phone inquiries about various pond-related problems.

The division continues its Freshwater Artificial Reef Program. With many of our Louisiana impoundments losing natural complex habitat as a symptom of aging, LDWF is now in the process of developing guidelines for the construction of freshwater artificial reefs, with the use of various materials. The preliminary findings indicate that material and methods used attract and provide necessary cover for all sizes of sport fish and have no negative environmental consequences.

A total of six lakes were designated as candidates for placement of artificial reefs: Toledo Bend; Claiborne; Caney; D'Arbonne; Rodemacher; and Bruin. Each reef was constructed, marked with buoys and placed in varying depths. Maps of reef locations with coordinates were made available to anglers.

The Louisiana Cooperative Fish Disease project, which the division has with the LSU Aquatic Animal Diagnostic Lab within the School of Veterinary Medicine, provides support to private pond owners. In fiscal year 2006-2007, 260 cases were submitted as part of this project.

The division is also responsible for conducting investigations into fish kills in freshwater. Area impact and losses are recorded for each kill. Naturally-occurring dissolved oxygen depletion, as well as saltwater intrusion, was indicated as the cause of most kills. Continued investigations into the Largemouth Bass Virus problem were conducted. LDWF personnel assisted in administering a grant to LSU to develop non-lethal methods for detection of this disease.

Aquatic Plant Research and Control Program

During fiscal year 2006-2007, the Aquatic Plant Research and Control Program (APRCP) provided substantial benefits to the

citizens of Louisiana. Responsibilities included monitoring water bodies for non-native and invasive aquatic vegetation, providing technical assistance and continually investigating more effective and environmentally safe methods of controlling these nuisance plants. Aggressive treatment of affected waters continued in an effort to restore and improve the aquatic habitat and the natural desirable balance of plants and fish. Control of nuisance plant species is also necessary to provide boating access to many public waterways.

To prevent habitat degradation from exotic aquatic vegetation and to maintain fisherman and boater usage throughout the state, aquatic herbicides are used to treat nearly 1/3 of the states fishable waters annually. LDWF crews throughout the state treated 127 waterbodies during fiscal year 2006-2007.

This year, a total of 30,179 acres were treated throughout the state. Of that total, 78 acres were sprayed below the salt water line.

Biologists continued to provide advice and technical assistance to private and municipal pond owners concerning aquatic vegetation management problems. This popular extension program also provided aquatic plant identification assistance for the public on request.

Research projects of the APRCP included evaluation of new herbicides to determine their effectiveness for use in aquatic weed control.

LDWF utilizes both conservation and federal funds to control primarily water hyacinth (*Eichhornia crassipes*). However, in the course of treating water hyacinth with the herbicides 2,4-D and glyphosate, emergent plants such as alligatorweed (*Alternanthera philoxeroides*), primrose (*Ludwigia spp.*), American lotus (*Nelumbo lutea*) and several others of minor importance were also sprayed. Other troublesome submersed and floating plants not susceptible to control with 2,4-D and glyphosate, such as hydrilla (*Hydrilla verticillata*) and two species of salvinia (*Salvinia minima and S. molesta*), require more expensive herbicides. State funds in the Aquatic Plant Control Fund (APCF) were used to purchase herbicides to address infestations of these plants. New infestations of giant salvinia appeared in eight new waterbodies which are heavily timbered and difficult to access. Spray crews had to spend a great deal of time searching for and treating these new infestations.

In addition, 15 percent of the APCF is also used to fund research into aquatic plant control by the LSU Agriculture Center. LSU continued its research into biological control of salvinia using the salvinia weevil (*Cyrtobagous salviniae*). Research efforts are currently focused on rearing a sufficient number of weevils to release on infestations of salvinia. Test releases have been made on common salvinia in selected areas of southeast Louisiana and on a persistent infestation of giant salvinia in the Houma area.

Biological control of giant salvinia using the salvinia weevil is recognized as the leading, and most often used, control strategy in all areas of the world due to its highly effective nature. Over one million salvinia weevils have been mass produced by the U.S. Department of Agriculture (USDA) in the last two years and released into giant salvinia-infested waterways in Texas and Louisiana.

ACREAGE TREATED		BENEFITS		MAN-DAYS (Recreation Provided)
Freshwater	Below Salt Water Line	Acres of Lakes	Miles of Streams	
30,101	78	434,415	5,795	6,645,000*

**From 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation State Overview (Preliminary Findings) Report*

In addition to using herbicides, certain nuisance aquatic plants can be controlled by manipulating water levels (drawdown). Ten lakes were drawn down this year for aquatic plant control.

Log and Tree Removal

As part of the aquatic habitat management program, crews throughout the state cut and remove logs and trees that have fallen into waterways and obstruct navigation. There were a total of 169 water-bodies that were cleared of logs and trees throughout the year, taking 1,532 man-hours of work.

Fish Stocking

The goals and objectives of the Inland Fisheries Division include providing the public with a quality fishing experience and managing for big bass. In part, the management for big bass is reliant upon the stocking or incorporating of the Florida largemouth bass gene into our native black bass environment. In fiscal year 2006-2007 LDWF Inland Fish Hatcheries, in assistance with other partnerships such as the US Fish and

Wildlife Service, Cross Lake Fish Hatchery, Rockefeller Refuge and other local and private associations, addressed stocking needs for 84 diversified water bodies throughout the state of Louisiana.

Summary of Fish Species Stocked Fiscal Year 2006-2007

Triploid Grass Carp:	53
Florida Largemouth Bass:	3,928,510
Striped Bass:	7,292
Hybrid Striped Bass:	591,555
Channel Catfish:	223,605
Bluegill:	1,268,858
Paddlefish:	9,439
Northern Largemouth Bass	14,614
Total	**6,043,926**

The following is an alphabetical listing of the water bodies stocked in fiscal year 2006-2007: Amite River; Atchafalaya Basin; Atchafalaya Marsh; Bayou D'Arbonne; Bayou Desiard; Bayou Lacombe; Bayou Liberty; Bayou Plaquemine; Bayou Segnette; Bistineau Lake; Black Bayou (Bossier); Black River Lake; Blind River; Brec Pond; Bonnett Carre Spilllway; Buhlow Lake; Caddo Lake; Caernarvon; Calcasieu River; Camp Edgewood; Cane River; Caney Lake; Caney Creek Lake; Chicot Lake; City Park Lake (Baton Rouge and New Orleans); Claiborne Lake; Concordia Lake; Cotile Lake; Corney Lake; Cross Lake; Cypress Bayou Lake; Davis Pond; Devils Pond; False River; Fort Polk ; Grassy Lake; Henderson Lake; Holbrook Park; I-55 Canal; Iatt Lake; Jennings Pond; Kincaid Lake; Kisatchie NF; Lac Des Allemands; Lafreniere Park; Lafourche Lake; Lake Bruin; Lake Fausse Point; Lake Martin; Lake Ophelia; Lake Providence; Lake St. John; Lake Verret; Mermentau River; Moore Park; Old River Raccouri; Pearl River; Poverty Point Lake; Red River - Pools 1, 2, 3, 4 & 5; Reserve Canal; Rockerfeller Refuge; Saline Lake; Sam Houston Park: Sibley Lake; St. Charles Parish Prison; Tangipahoa River; Tchefuncte River; Tickfaw River; Toledo Bend; Vernon Lake; and Waddill Recreation Area.

PUBLIC BOATING AND FISHING ACCESS

In a cooperative effort, LDWF assists local government entities requesting financial assistance in the development and construction of boating and fishing access facilities. To accomplish this, LDWF obligates a portion of its federal Sport Fish Restoration funds to match up to 75 percent of the total cost of these projects. This program funds both freshwater and saltwater projects which may include construction of boat ramps, parking areas, docks, bulk heading and fishing piers. A total of 75 projects are completed to date, and another 20 are in various stages of either planning or construction.

Public Access Facilities for Boating and Fishing Under Construction or in the Planning Stage

Reserve Boat Launch, Phase II
Reserve Boat Launch, Phase III
Golden Meadow Public Boat Launch
Sherburn WMA Boat Launch
Burns Point Park Boat Launch
Calcasieu/Industrial Canal Fishing Pier
Jessie Fontenot Boat Launch, Phase III
South Houma Fire Station Boat Launch
Texas Gulf Road Boat Launch
North Pass
Bayou Macon
Tensas Basin
Baker's Cut-Off
Gateway Landing, Washington
Leonville Boat Launch
Venice Marina
Old Ferry Landing, Tier I
Slidell Marina, Tier I
Empire Marina
Lake Claiborne Boat Lane Marking

Projects Completed During Fiscal Year 2006/2007

Lake End Park, Phase II
Cypress Cove, Tier I

Projects Closed (No Activity) due to High Construction Cost

Fort Pike Boat Launch
Belle Chase Boat Launch

PERMITS

Inland Fish Division issues a variety of permits to provide individuals a legal method to participate in a specific activity. A

list of these permits, a short explanation for each and the number issued last year appear below.

Freshwater Scientific Collecting Permit - Used to take fish for scientific or educational purposes, propagation or for distribution.
Issued - 65

Triploid Grass Carp Permit - Used to allow individuals to possess triploid grass carp.
Issued - 302

Triploid Grass Carp Sellers Permit - Used to allow individuals to import, transport, possess and sell triploid grass carp.
Issued - 8

Tilapia Permit - Used to allow individuals to possess tilapia.
Issued - 13

Gamefish Fingerling Permit - Used to allow individuals to transport, possess and sell game fish fingerlings.
Issued - 11

Mussel Buyers Permit - Used to allow individuals to buy commercially harvested mussels from mussel harvesters.
Issued - 1

Scuba Spearfishing Permit - Used to allow individuals to spearfish in Toledo Bend Reservoir June through September.
Issued -11